# Drug & Cosmetic INDUSTRY

November 1943

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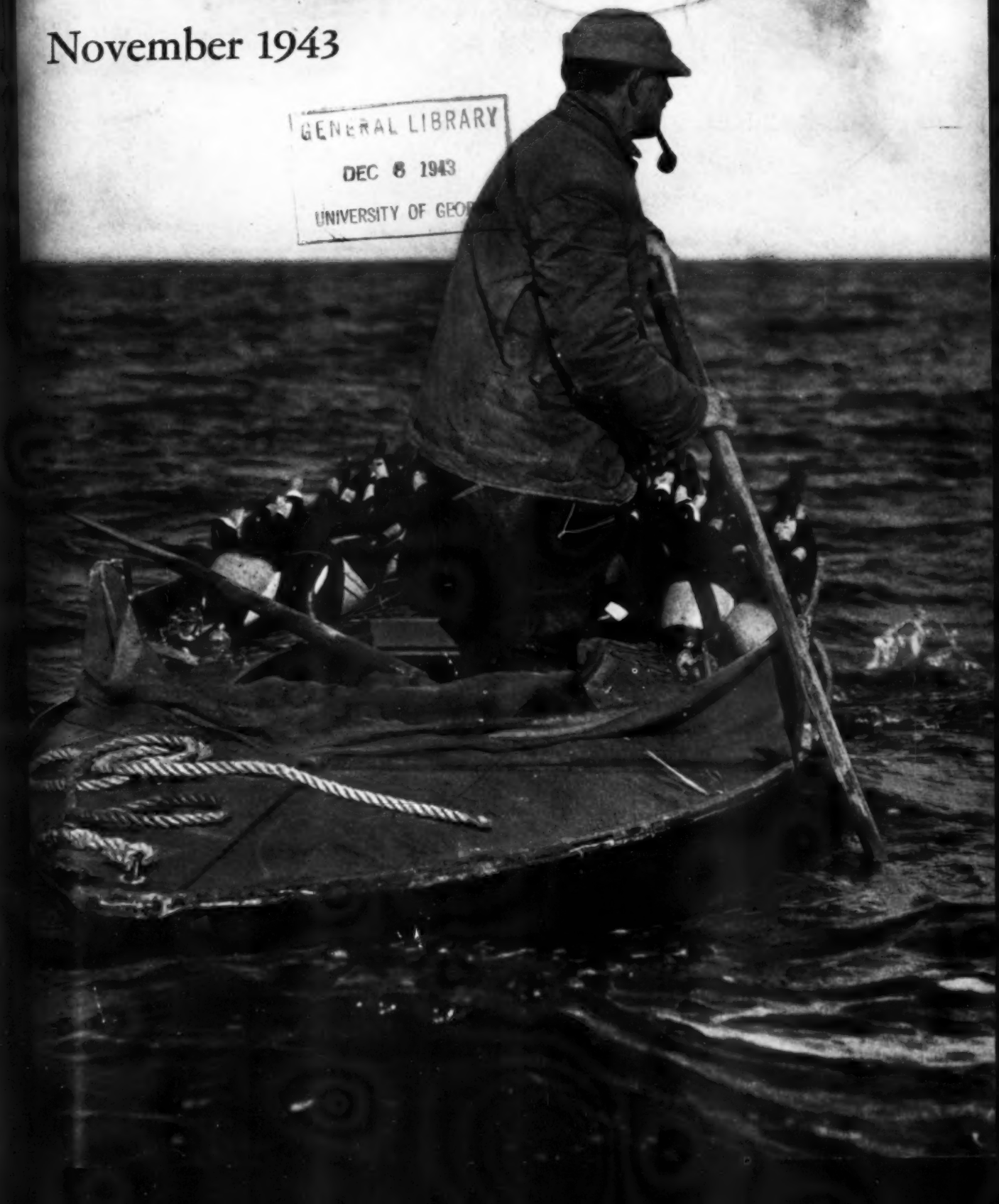

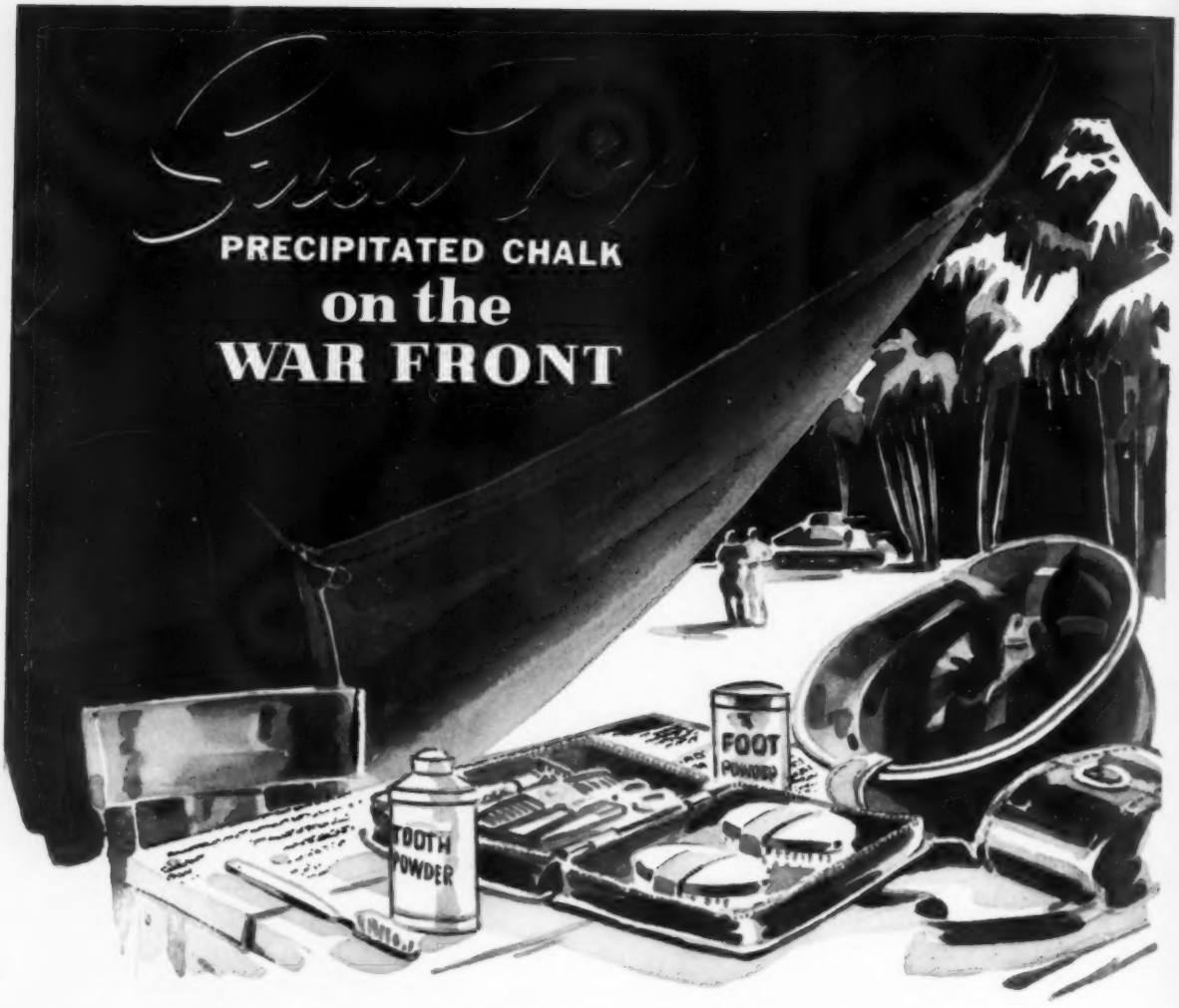


Snowtop, America's finest Precipitated Chalk, has found its way to every war front in the world as an important ingredient in the leading brands of American dentifrices. It is also serving in face and body powders, and in dozens of other products being supplied to our fighting men . . . . and women. SNOW TOP is more than just an identifying name; it is your guarantee of the highest quality Precipitated Chalk . . . . in uniformity, color, purity, cleanliness, physical character, absorptive properties and binding power. If you manufacture dentifrices, pharmaceuticals, anti-acid tablets or cosmetics requiring Precipitated Chalk, one of our five standard grades may suit your purpose or we can manufacture to your specification requirements.

*Snow Top Precipitated Calcium Carbonate* ★ *Abietic Acid* ★ *Nuchar Activated Carbons* ★ *Liquid Caustic Soda* ★ *Chlorine* ★ ★ *Lignin* ★ *Liqro Crude Tall Oil* ★ *Indusoil Distilled Tall Oil* ★ *Tall Oil Pitch* ★ *Sulphate Wood Turpentine*

SNOW TOP

DIVISION WEST VIRGINIA PULP & PAPER COMPANY

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# You Bet!

Among conversational pocket-pieces, worn smooth by frequent exchange, is the terse little phrase, "You bet!" . . . meaning: "That's right!" or "You can depend on it!"

Well, if you were to approach a Carr-Lowrey workman mixing a "batch" of raw materials, and casually say, "You measure those ingredients as carefully as a woman making a cake," chances are he'd simply reply: ***"You bet!"***

And if you were to stand by an almost human glass blowing machine, to watch the gobs of molten glass plunging into precision-tooled molds, and were to inquire of a nearby operator, "Keep your eye on her all the time, don't you?" he, too, would probably answer: ***"You bet!"***

Further along you might see glowing Carr-Lowrey containers going through a carefully controlled annealing process . . . stand and watch the rigid inspection each Carr-Lowrey container receives, before packing . . . and say to yourself: "Eternal vigilance is also the price of *quality!*"

And from somewhere deep within your thoughts there would arise that old familiar affirmation: ***"You bet!"***

**CARR-LOWREY GLASS CO.**

*Factory and Main Office:* BALTIMORE, MD. *New York Office:* 500 FIFTH AVENUE *Chicago Office:* 1502 MERCHANDISE MART

# Drug & Cosmetic INDUSTRY

## NOVEMBER 1943

## CONTENTS


| | |
|---|---|
| KEEPING POSTED | 501 |
| SMEARING DRUG MAKERS | 506 |
| ALCOHOL SHORTAGE | 508 |
| QUININE AFTER THE WAR | 509 |
| SWEET BASIL | 510 |
| ZINC PEROXIDE | 512 |
| NOVEMBER ALLOCATIONS | 514 |
| MERCHANDISING NEWS AND PACKAGING NOTES | 519 |
| NEWS | 527 |
| INDUSTRY'S BOOKS | 538 |
| PRODUCTION FORUM | 541 |
| PERFUMERS' SHELF | 552 |
| COMPOUNDER'S CORNER | 555 |
| ADVANCING THERAPY | 561 |
| PURCHASING DEPARTMENT | 565 |



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BUT . . our fighting forces obviously have first call these days on ever increasing quantities of tougher New England SHEFFALLOY Tubes. Filled with essential pharmaceutical and medicinal ointments, they're going all over the world . . giving dependable protection under the most severe conditions. Briefly, that's why deliveries are sometimes delayed for our good customers whose orders are not rated or carry low priorities. The greatest possible contribution to VICTORY which we can make is little enough indeed . . we're sure our customers understand.

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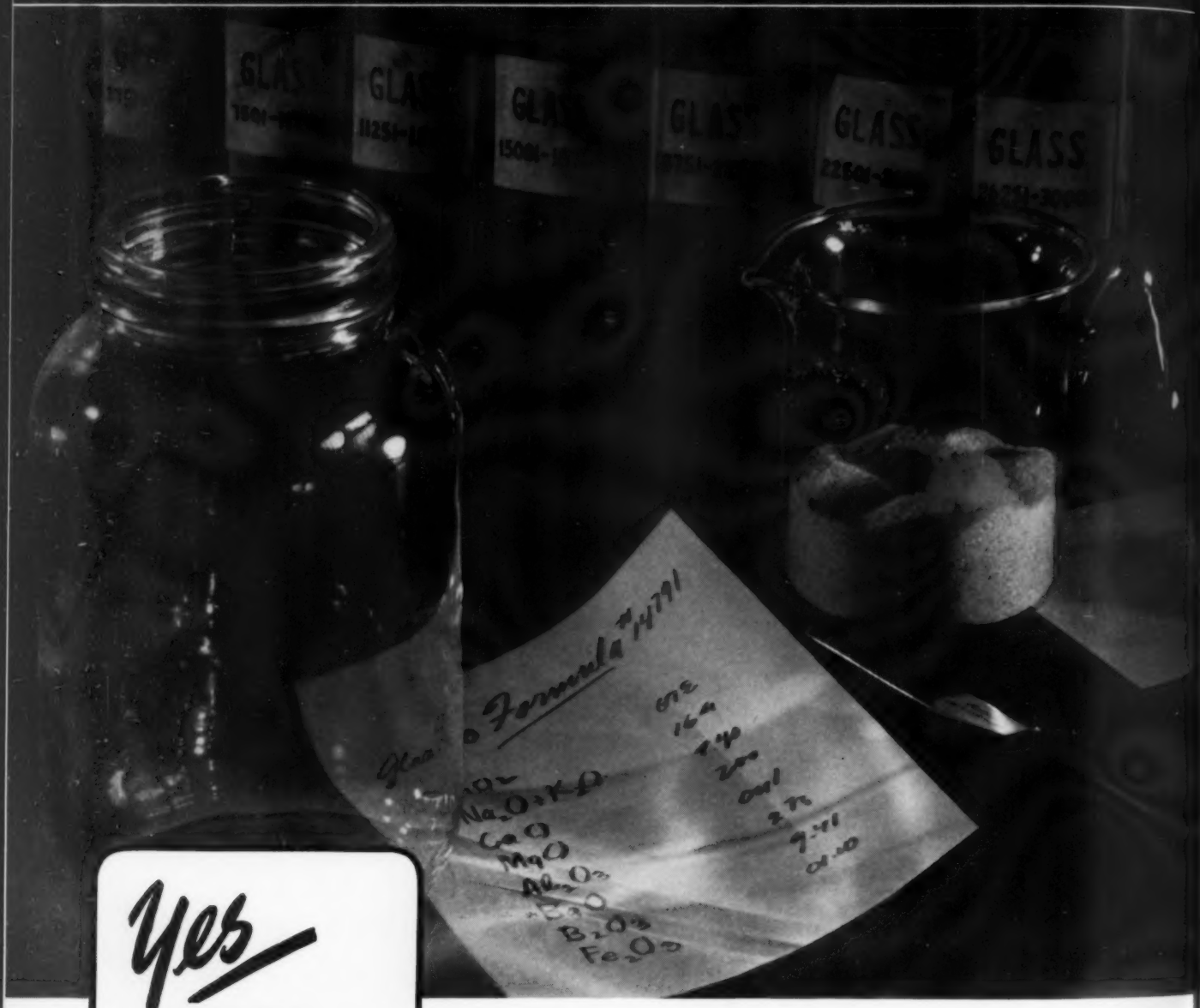
THE WILCO COMPANY, 6800 McKINLEY AVENUE, LOS ANGELES, CAL.

# YOU CAN MAKE IT 30,000 DIFFERENT WAYS




## Yes THERE'S A DIFFERENCE IN GLASS

NEXT time you're talking to someone about glass, ask him just for fun how many different kinds of glass he thinks there are. Unless he's a trained glass chemist, we'll wager his eyes will pop when you tell him that there are actually as many as 30,000 different glass formulas.

Not all of these formulas are commercially used, of course. Yet glass manufacturers regularly melt as many as 300 different glass mixtures . . . use over a hundred different ingredients (besides sand) in these compositions. Some of these ingredients are used in ton quantities, while only a few grains of others are needed.

Amazing, isn't it? And even though your interest in glass may be confined to one special line—container glass—the fact that there are so many ways to make glass is important to you. For it proves, beyond question, that there *is* a difference in glass.

This difference shows itself in many ways . . . such as degrees of brilliance, clarity, thermal shock resistance, and so on. Individually these differences may not be important, but all taken together, they add up to the big difference between run-of-the-mill ware and top-quality glass. And *that* difference is important to you.

For a graphic description of the facilities and skills that go into the making of high-grade container glassware, send for your copy of Armstrong's booklet, "Men and Glass." It's free. Just write Armstrong Cork Co., Glass and Closure Div., 3811 Prince St., Lancaster, Pa.

## ARMSTRONG'S GLASS

*and* ARMSTRONG'S CLOSURES

# What's new at NYQ

*Recently installed, this new equipment has helped immensely in increasing output and speed of delivery. This is just one of the many N. Y. Q. installations added to meet war-time needs.*

At N. Y. Q. today, many new departments have been installed. New equipment has been added. Automatic machinery is speeding up production to meet the requirements of a nation at war.

Right now, a large part of our production is going to the government. At the same time, we are making every effort to supply our regular customers with as much N.Y.Q. material as possible.

We look forward to the time when, with the many added facilities, we can again take care of our customers through normal consumer channels.

NYQ

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# INSIDE NEWS

NOVEMBER PREPARED BY NATIONAL CAN CORPORATION, NEW YORK, N. Y. 1943

## Food Industries In Unique Wartime Position Need Practical Program In Washington

Photo From U. S. Army

Eager hands of French children reach out for cans of condensed milk being distributed by an Army sergeant, member of the U. S. task force in Oran, Algeria. Half the milk ration of U. S. troops in Oran was given out in this manner. Allied forces have also made available a quantity of powdered milk to be distributed to children up to the age of fourteen in North Africa.

For many food manufacturers, the end of the war will be the beginning of full-scale "war production." Characteristic of food's special position is the fact that *while supply increases with the Navy's success, demand increases with the Army's success.* Military as well as humane reasons dictate need to feed liberated areas.

Federal controls and rationing are therefore expected to continue for some time irrespective of military decisions in any part of the world. The best that can be expected is a gradual increase of administrative efficiency and practical thinking in the alphabetic potpourri of agencies now in control of U. S. food supplies and prices.

With OPA, FDA, FPA, Army demands, Lend Lease demands and sundry long-range "win-the-peace" planners pulling and hauling before specific directives can be arrived at in many cases, prediction of short-term Federal activity is next to impossible.

The recent trend towards introducing experienced business brains into food administration, and the repeal of grade labeling requirements which had been written into maximum price regulations, are indications of possible improvement. Here's how, food men say, the Government should enter into the picture:

1. Government should determine overall national food needs.
2. Government should then hold the proper sections in food production and distribution responsible for detailed planning.
3. Government should then cooperate in seeing that the plan gets results . . . that regulations are really effective.

*U. S. Food Notes:* Government has been and is accumulating *a vitamin A stockpile* for use in liberated areas, also purchasing seeds in advance . . . Need to calm consumer buying by *increased imports from Latin America* is foreseen in certain quarters. In view of naval successes, only step required is positive request from War Food Administration for ships and space . . . *Feed for livestock and poultry* is now so reduced that large marketings may end meat shortage for several months, but cut egg supply.

*World Food Notes:* Canada is expected to have turned 7,500,000 bushels of wheat into industrial alcohol by the end of '43 . . . *New sorts of basic foodstuffs are taking hold in Africa* under impact of war. Africans are meeting current grain shortage by return to cassava starch and manioc root . . . Australia is producing 1,000,000 *cans of Australian-grown vegetables a week* for the services. Canning techniques there have been established with the help of American experts. 471

## Gum Guaiac Not Used Extensively In Preserving Food For Armed Forces

Gum guaiac is being used by Swift & Company in the stabilization of certain fats and oils, particularly lard; fatty foods in paper wrappings, for instance, are stabilized in contact with the package. Gum guaiac in meat dehydration is still experimental, and is not being used in dehydration of fruits and vegetables. It is not being used in large-scale preservation of food for the armed forces, as stated in the July issue of *Inside News.* 472

## Vitamins Made In Cheese

Cheese makes its own vitamins, investigators have discovered. Vitamins of the B complex appear to be synthesized and stored in the outer portions of certain cheeses during the curing period. The types of cheese tested were Camembert, Brie, Liederkranz and Limburger. 473

## Spoilage-Free Foods Seen

Foods can be freed of the thermophilic, or heat-resisting bacteria that cause spoilage, in from 1½ to 2 minutes of treatment by a new process for which a patent has been filed. Details of the process, developed after a year of research work, will not be available until the patent has been granted, but it is claimed that the process is applicable to various foods such as sugar beets, beans, soybean flour and other products. The cost of the treatment is said to be extremely low. 474

## Peavine Silage as Cattle Feed

Findings of an Agricultural Experiment Station should help pea canners allay the fears of any of their growers who may have believed that feeding of pea silage to cattle made the cattle susceptible to a disease which caused them to stagger and go down. 475

# NATIONAL CAN

PLANTS: NEW YORK - BOSTON - BALTIMORE - CHICAGO - HAMILTON, OHIO - FORT WAYNE, INDIANA


## Synthetic Rubber Putty

A new putty, in which man-made rubber entirely replaces natural crude rubber formerly used, is superior to the previous product, according to the nationally recognized manufacturer. At the present time it is employed chiefly for sealing metal joints in combat equipment, though diverse uses are suggested. 476

## Oil Purifiers

Lubricating and heating oil reclaimers, with capacities ranging from two and one-half gallons in 70 to 90 minutes to 120 gallons in the same length of time, are available in 11 models and two series, both types using contact filtration in which common refinery earths, available on the open market, are used. These reclaimers are recommended for restoring all types of used oils, including drained oils, from a wide range of installations.

The machines are said to be capable of reclaiming used oils without presettling or pretreatment and restoring the oils to substantially the same values of fire, flash, viscosity, color, neutralization number and precipitation number as the new parent oil. Operated under thermostatic control, they permit the man working the machine to do so incident to his regular duties.

Of potential value to organizations having their own fleet of trucks and motor cars, as well as to plant and manufacturing processes of companies. 477

## Aerosol "Bombs"

A new insecticide concentrate has just been patented by a Bureau of the United States Department of Agriculture. At the present time, the Armed Forces are taking the entire output of these aerosol bombs, which are being made commercially by four companies. The concentrate is contained in a steel cylinder, which acts both as a container and a dispenser, a valve serving to release the insecticide in the form of a fine mist or fog. Because droplets of insecticide dispersed into the air in this way are much smaller than those dispersed by the usual sprayer, they have been proved to be more toxic to insects. 478

## Pest Damage Needs Control

Total annual damage to our food supply through the attacks of insects and rodents runs to approximately two billion dollars. The estimated loss is approximately six to seven per cent of our total available food or about the amount we lend-leased to all our allies last year. Pest control through intelligent and repeated use of insecticides is thus more important than ever as a wartime necessity. A list of 10 leading insects from standpoint of the damage they cause is available. 479

# Technical Topics

TEXTILE PRESERVATIVE — Waterproofing and rot-proofing of textiles has been seriously studied in Australia to meet moist, high temperatures. Copper compounds, applied in hot impregnation, using copper-soap emulsions or mixtures of emulsions of copper soaps and suitable waxes, have proved most effective. 480

FISH INCREASE—Foreign experiments in a fishing community show that fish can be multiplied as much as ten times by the addition of certain compounds and phosphates to the water in a manner similar to the fertilization of land. 481

GARMENTS FROM OCEAN—Among the many products Britain expects to manufacture in a new postwar industry using seaweed is an inexpensive fabric. 482

INFECTION AVOIDED — Australian process for sucking eggs from their shells for dehydration without the pulp touching the outer shell, or contact with hands, claims complete safety from infection. From 100,000 to 1,000,000 bacteria and 200 to 500 mould spores tests show on the outer surface of an average clean egg. 483

PINE NEEDLES—A vitamin valuable in the daily human diet has been discovered in research on pine needles by Russian scientists. 484

INVISIBLE RAINCOAT—An invisible raincoat is formed on cloth, paper and other materials by exposing them to chemical vapors which make them waterproof. The "raincoat" is so thin, its structure cannot be determined by chemical analysis or seen under a high-powered microscope. 485

JOJOBA—Experiments in growing jojoba bush under irrigation near Florence, Arizona, is an expansion of the commercial use of this bush which grows in semi-arid regions of Mexico and has been a new source of wealth for this country. 486

DEAD SEA SALTS—Palestine's new industry is producing chemical salts evaporated from the Dead Sea, in open evaporation pans by a new secret process, it is announced. 487

"ROTTEN CABBAGE"—Odors for detection are not new. Peppermint has been used to find a leak in pipe lines. Now the United States Bureau of Mines advises mine owners to use a chemical which smells like rotten cabbage, as a warning to miners to leave a dangerous level. 488

SODIUM CELLULOSATE—Has been introduced in Britain for use as a thickening, emulsifying, demulcent, glossing and starching agent. The material does not itself ferment, and is resistant to fungal and bacterial growths, it is declared. 489

FLUE DUST—Iodine and potassium chloride recovery from blast furnace flue dust has been advocated in Germany. 490

SODIUM METAL—Is now being used as a coolant in the exhaust valves of aircraft engines. 491

PROPYL GALLATE—Was suggested recently in Britain as a suitable agent for inhibiting the autoxidation of animal and vegetable oils. The material was found to be soluble in oils at relatively low temperatures, and to apparently have a low degree of toxicity. 492

FORMIC ACID—Can be synthesized directly and in high yield by the action of carbon monoxide on water vapor in the presence of certain catalysts, according to a recent article in German technical literature. 493

ANEMIA AID—The injection of red blood cell suspensions produced favorable results in anemic patients, in recent investigations by three physicians in the United States Medical Corps. Beneficial results were reported in 44 of the 48 test cases on which the report was based. 494

CUPROUS CYANIDE—Production by a simplified method was recently described in a British technical journal. The new method was declared to produce a material much lighter in color than by older methods, which is of especial advantage in making cuprocyanide solutions for use in the Sandmeyer reaction for preparing aromatic nitriles. 495

DEHYDRATION—The results of research on nutrient losses in manufacture and preparation of dehydrated vegetables indicates that these products should be used only in soups or stews and that all soaking and cooking waters should be made a part of the soup or stew, according to the authors of a recent paper. 496

VITAMINS IN SUGAR—Whole mature sugar cane is a fair source of thiamin and riboflavin, rich in pantothenic acid and a good source of niacin, according to findings reported recently. 497

*Every effort will be made to furnish additional information on these articles. Where such information is not obtainable, we will refer inquiries to the original source of the article. Write to National Can Corporation, 110 East 42nd Street, New York City. Please mention the number at end of article—also name of the magazine you saw it in.*


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This is just one of several Norwich pharmaceuticals sealed with Crown Screw Caps . . . which, because of the patented Deep Hook Thread, give 50% to 100% more sealing pressure with the same amount of force.

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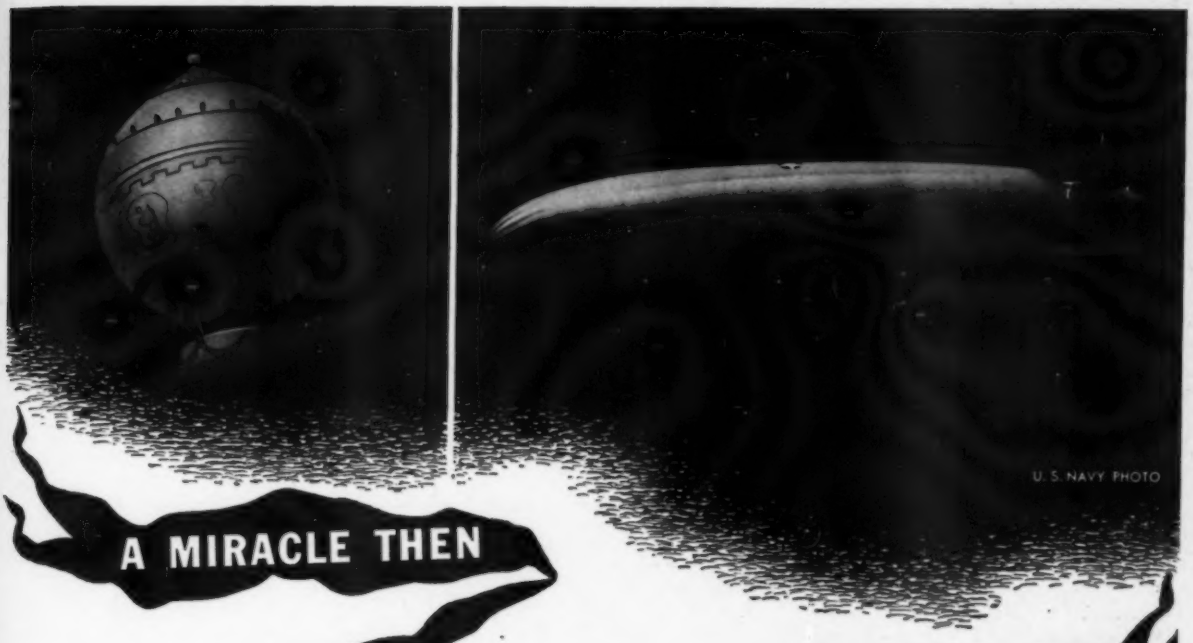
*World's Largest Makers of Closures for Glass Containers*

**BALTIMORE, MARYLAND**

# CROWN CLOSURES

**CROWN'S WARTIME POLICY:** *To supply closures, containers and services for packaging foods, beverages, chemicals, etc., needed by civilians and the armed forces. To build an ever-increasing volume of vitally needed weapons of war for our fighting men.*




# A MIRACLE THEN

# BUT NOT GOOD ENOUGH TODAY!

*Standardize* **NOW** *on Kimble Ampuls, Serum Vials, Serum Bottles and Clinical Glass containers of* **NEUTRAGLAS.**

**The balloon invented by the Montgolfiers of France in 1783 startled the world. Today, this wonder pales into insignificance beside the modern Navy dirigible.**

**NEUTRAGLAS . . . offering the highest resistance to solvent action and chemical attack . . . was developed by Kimble because no glassware can be just "good enough" if better is obtainable.**

• • • *The Visible Guarantee of Invisible Quality* • • •

# IN THIS CHANGING WORLD

VAN

Azimuthal-equidistant maps such as this were not in our school geographies but they are in constant use today. Few things are as they were. Intently alert to the need for progressive change, van Ameringen-Haebler perfume chemists are constantly adding successful new techniques in the art of perfuming, to their already vast store of knowledge and creative skill.

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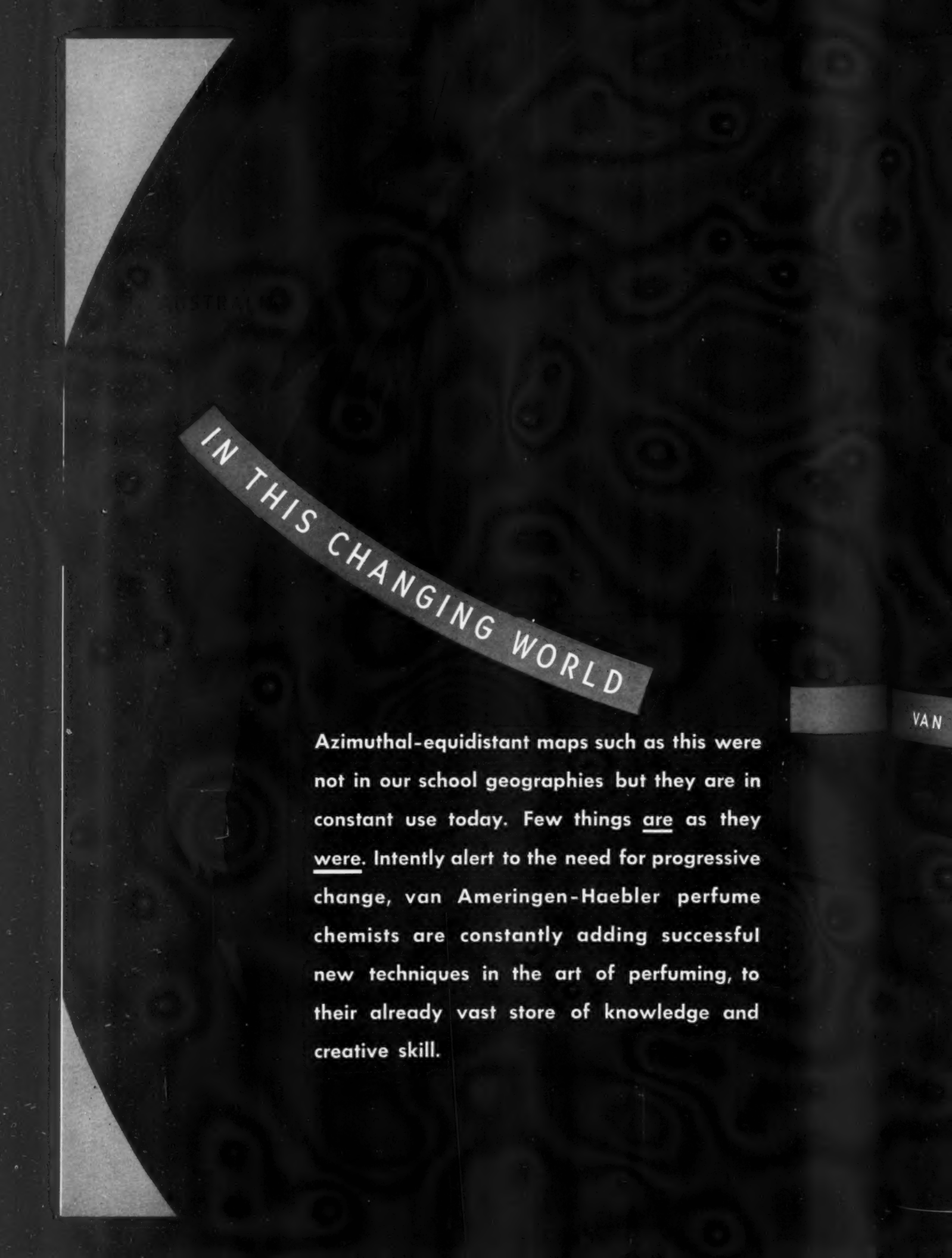


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Powder

**IRON GLYCEROPHOSPHATE N. F.**
Powder

**MANGANESE GLYCEROPHOSPHATE N. F.**
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**GLYCEROPHOSPHORIC ACID**

*Write for current products list*

**HEYDEN *Chemical Corporation***

**50 UNION SQ., NEW YORK 3** Branch: 180 No. Wacker Dr., Chicago 6

# AFTER VICTORY . . . WHAT?

***Many businessmen*** are planning for the return of the "good old days" when hostilities end. But the "good old days" are not going to return without a recognition and use of the many new possibilities that will be offered after the war.

***For example,*** just picture what has been learned about new uses for previously untried raw materials and packages during the past two years. It is inconceivable that anyone would return to pre-war formulas or containers without taking full advantage of what has been discovered during this emergency.

***In your post-war planning,*** our organization will be prepared to relieve you of your formulation and production problems.

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*250 East 43rd Street, New York*
*Telephone: Murray Hill 3-0077*

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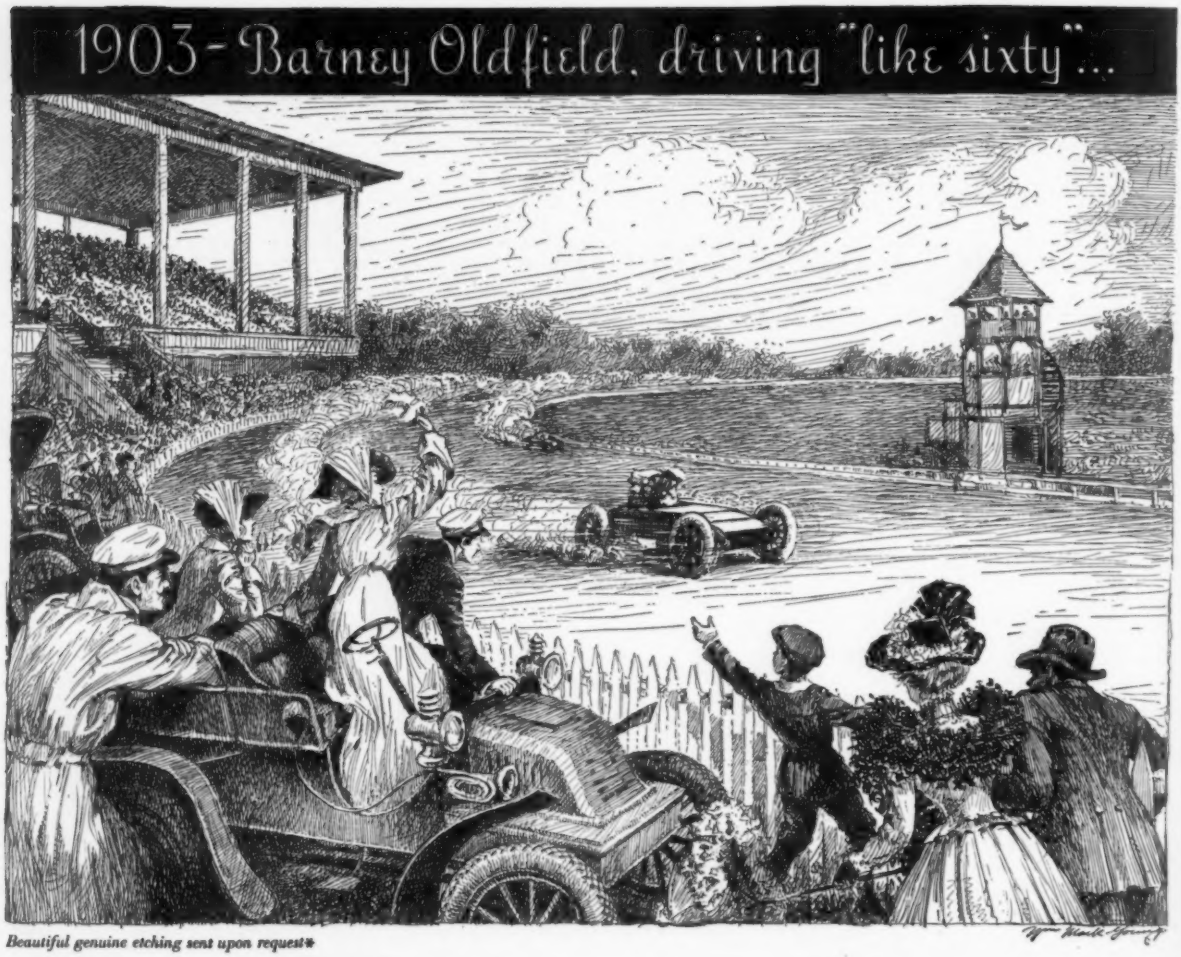


*Beautiful genuine etching sent upon request**

# 1943–EMPIRE Celebrates Its 40th Birthday!

*Empire counts among its clients many leaders in the field.*

**1903—Nov. 22nd, at Los Angeles: Champion Barney Oldfield—driving the Winton "Bullet No. 2" on a dirt track—sped to a new, amazing one-mile record, clipping one-fifth second off his old "time" of 65 m.p.h.*

From small space in Chicago, *in 1903,* Empire Box Corporation has grown to prominence, with plants, offices, and mills at several strategic points. As packaging grew from infancy to its present-day stature as a super-salesman, so grew Empire.

Today, *leaders* in the sale of packaged merchandise recognize Empire Box Corporation as a *leader* in the manufacture of printed cartons and folding boxes—for several reasons:

*Equipment* is one . . . We operate the latest type high-speed precision printing and die-cutting presses, and the most modern type laminating machinery.

*Management's attitude* is another . . . Maintaining highest possible wartime efficiency and service, now, we're preparing to serve the greater packaging needs of postwar business.

*So if your peacetime plans anticipate the need of printed cartons or folding boxes—whatever your problem—write us now.*

*Empire Box Corporation
Palmolive Bldg., 919 No. Michigan Ave., Chicago

I would like to have (without obligation) a genuine etching of the scene Barney Oldfield, Driving "Like Sixty". I understand that it carries no advertising.

Company Name.....

Address.....

City.....State.....

Individual.....

# Empire BOX CORPORATION

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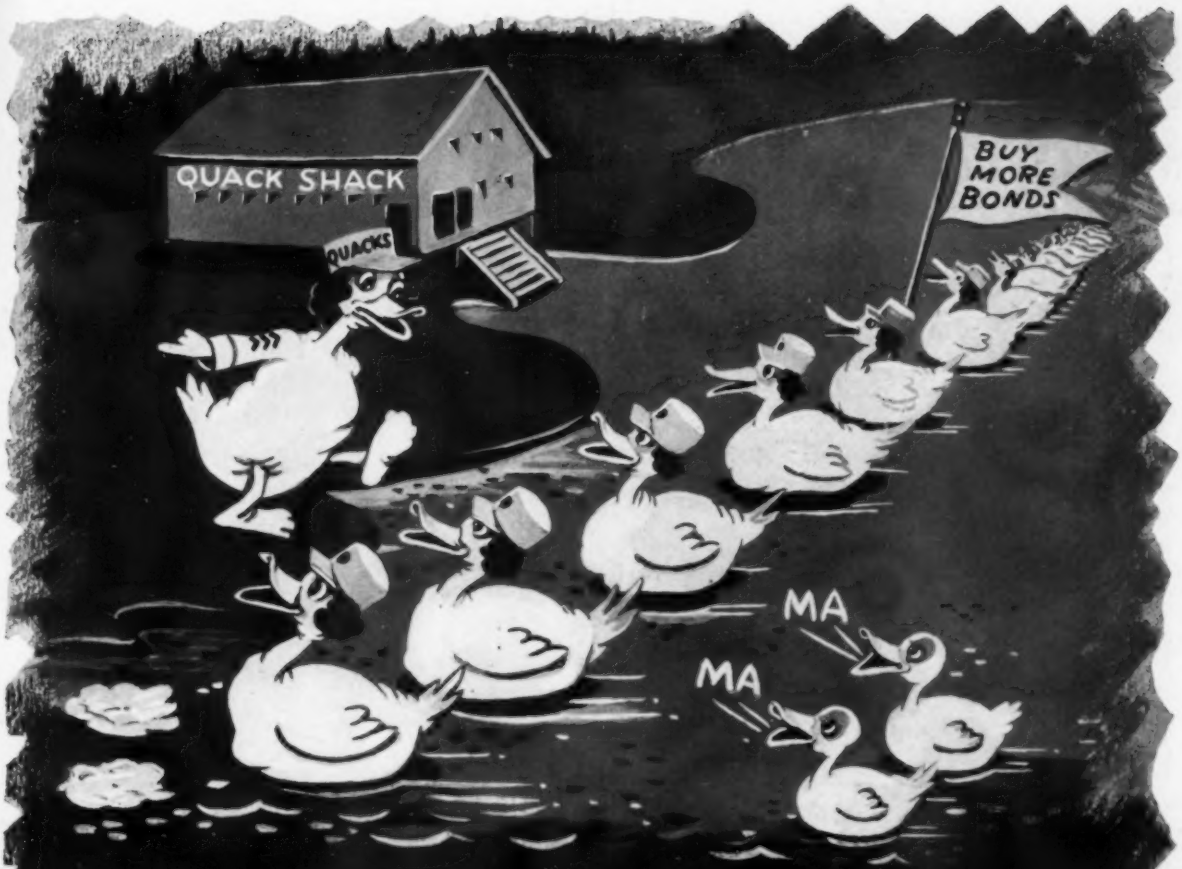
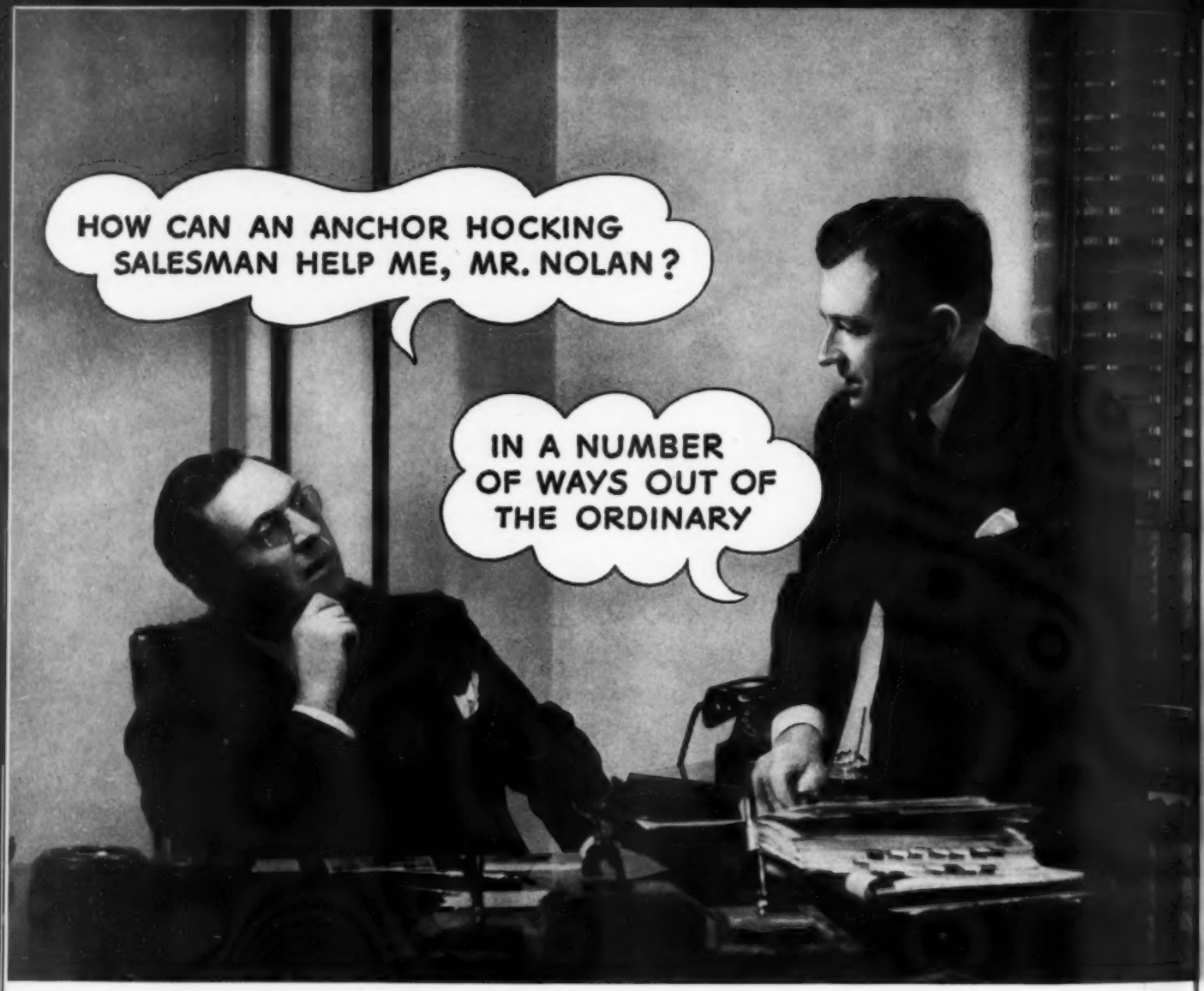



# *Patience is Part of Patriotism*

THE WAR is playing ducks and drakes with civilian needs — but who cares? Backing the attack comes first. If business lays an egg meanwhile, we'll have to hatch it out with patience. Cannons still mean more than cosmetics. We're doing everything humanly possible to keep you supplied. We know you'll understand.

**HARRY BRODER** *PLASTIC LIPSTICK & ROUGE CONTAINERS*

**5 EAST 47th STREET, NEW YORK 17, N. Y. • PL 8-0520**




Anchor Hocking salesmen know their glass containers, closures and sealing machines thoroughly. And because of the extent of their line, they are not prejudiced in favor of any one item, giving you only the counsel that is in your own best interest. They know filling, sealing, processing, production...transportation problems, display and merchandising techniques—and costs. And they know these things—not in theory or out of a manual—but after years of daily contact with packers of a wide diversity of products. On many occasions they have rolled up their sleeves to help solve perplexing customer problems. And with all this, they give you in full measure the usual sales services you have a right to expect.

**JOHN R. NOLAN,** one of Anchor Hocking's ablest and most popular men, has been a member of the Anchor Hocking family for 18 years.

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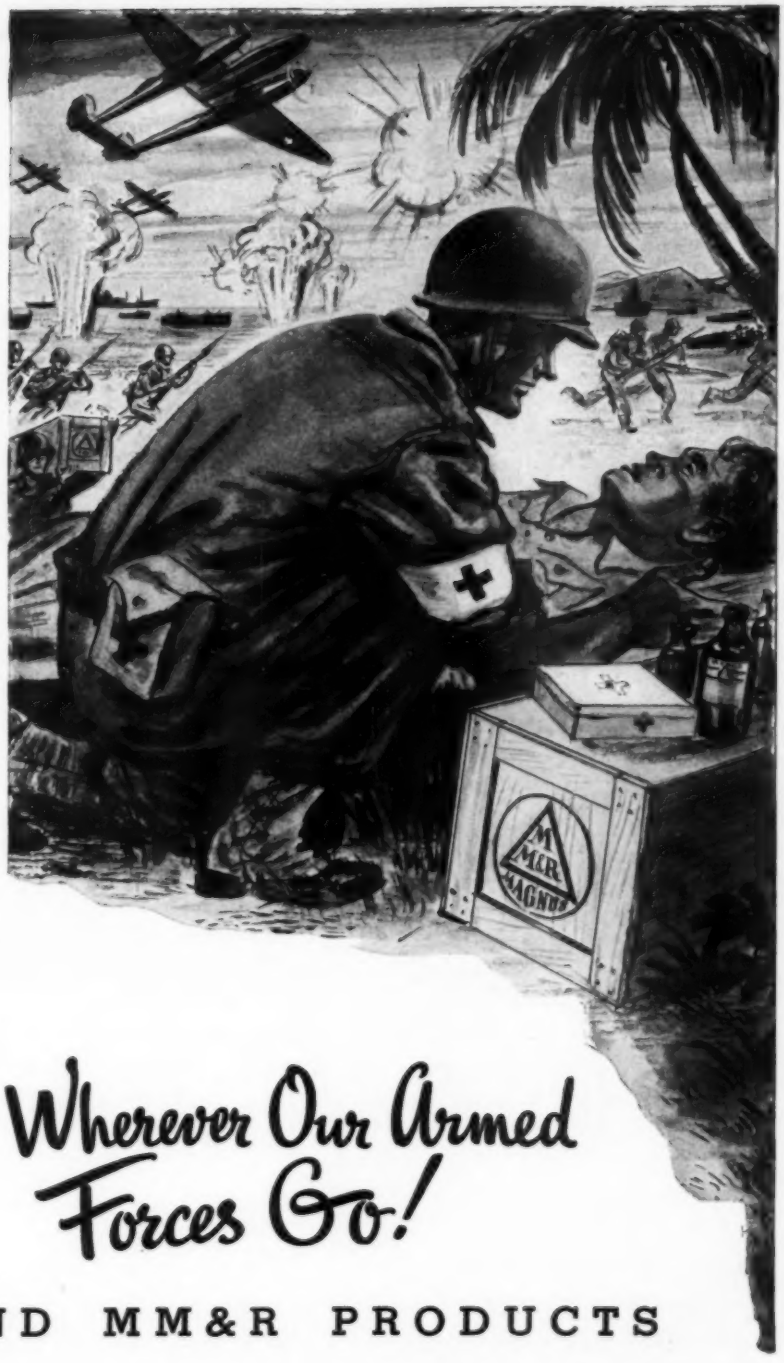


From behind the prescription counters of the nation's corner drug stores, thousands of pharmacists have moved into the front lines to dispense to the men of our armed forces.

Wherever they go, on land or afloat, they are certain to find the familiar amber bottles bearing the M M & R label . . . bottles that contain the very same Essential Oils and Balsams they used when they filled doctors' prescriptions in civilian pharmacies.

As one of the world's great suppliers of Essential Oils, Balsams, Aromatic Chemicals and Flavor Oils, M M & R has been privileged to enjoy not only the patronage of 3 out of every 4 pharmacists in the United States, but also the widest acceptance by leading pharmaceutical and drug manufacturers to flavor everything from lip sticks to tooth paste . . . to perfume everything from bath salts to fly sprays.

In these exceptional times, when manufacturers are faced with many difficulties, M M & R laboratory technicians are happy to offer their services to help find solutions to flavoring and perfuming problems.

## *Wherever Our Armed Forces Go!*

## YOU'LL FIND MM&R PRODUCTS

M M&R MAGNUS

# MAGNUS, MABEE & REYNARD, INC.

QUALITY ESSENTIAL OILS, BALSAMS, AROMATIC CHEMICALS, BASIC PERFUMES, FLAVORING MATERIALS . . . SINCE 1895

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# BRIDGEPORT...

For the past two years our facilities have been devoted almost exclusively to the production of war materials. We have been fortunate, in that we have been able to handle this work on the same equipment used for our regular peace time products, and, consequently, when material again becomes available for lipstick containers, vanity cases and other metal cosmetic items we will be prepared to start producing our regular line immediately. If you too are planning your post war program, we will be glad to assist you.

THE *BRIDGEPORT* METAL GOODS MFG. CO.

*Established 1909*

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VANITY CASES • ROUGE CASES • PASTE ROUGE CONTAINERS • LIPSTICK HOLDERS (ALL TYPES) • POWDER BOX COVERS • EYEBROW PENCIL HOLDERS • BOTTLE CAPS • JAR CAPS • METAL NOVELTIES TO ORDER

# We're Busier than Ever

# Delivering the Goods!

These are mighty busy times at the Allied Plant.

There are orders for the Armed Forces to be filled, also the orders of our customers who by their continued patronage and loyalty have earned a consideration we are privileged to honor. And these Civilian orders are mighty important orders, too, for they are playing their share in the vital role of sustaining a high morale on the home front.

Therefore, the servicing of *new* accounts in our present production schedule is not always physically possible. For this reason we urge that prospective clients talk over their requirements with us first to avoid possible disappointment and misunderstanding. Such discussion, to be sure, may not be a guarantee that their orders will be filled, but it is a guarantee of Allied fairness and willingness to consider your problem, and whenever possible, help you solve it.

**ALLIED PRODUCTS, Inc. • 30 Rockefeller Plaza, N. Y. C.**

***Private Brand Specialists • Makers of the world's finest cosmetics and toiletries***

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# Call D & O... first for Service

Even the exigencies of these troubled times have not interrupted our efforts to render all our valued customers the kind of service and cooperation they have so well enjoyed in the past. Good service is still an important policy here at D & O... just as it has been for over 144 years.

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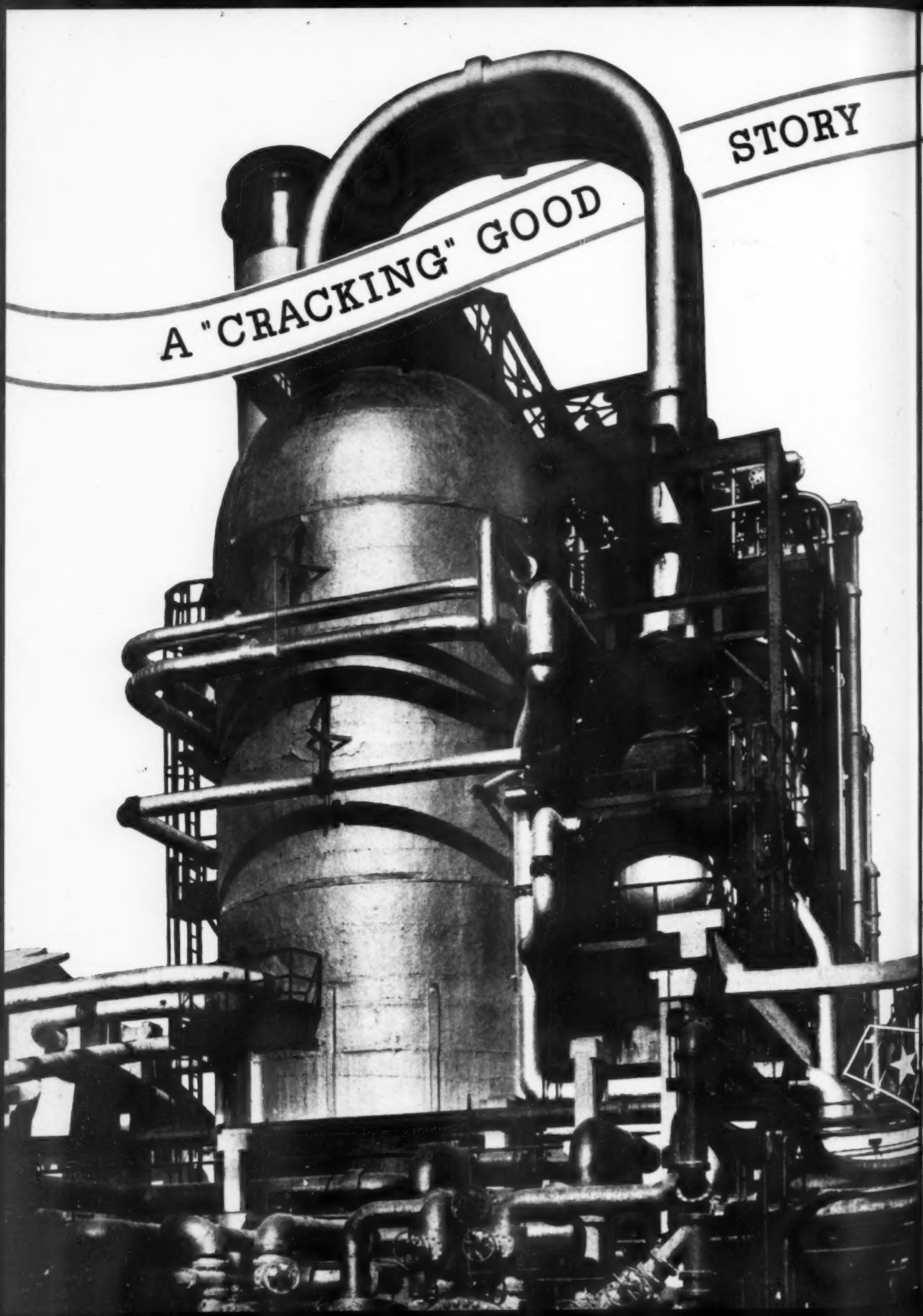
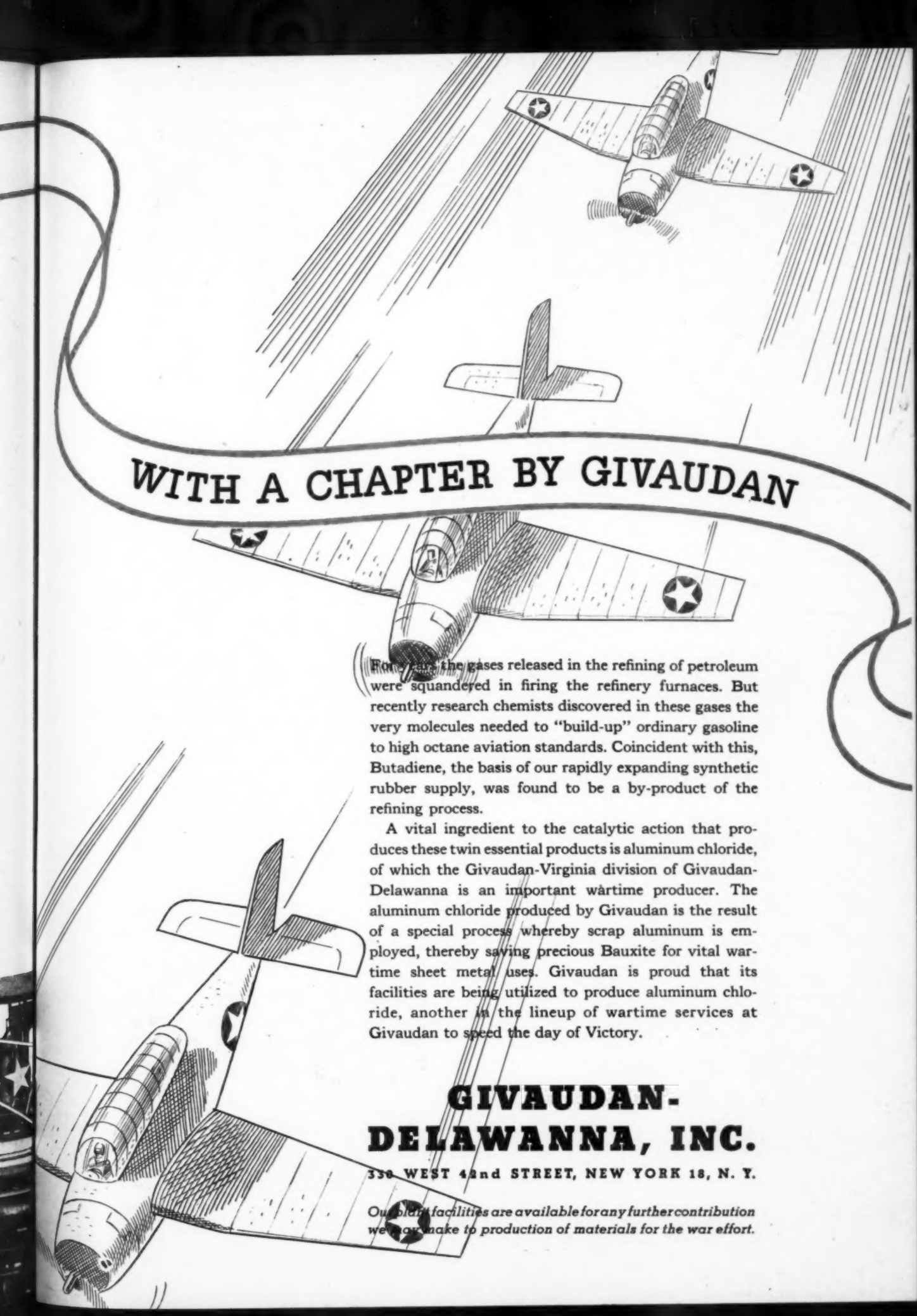

A "CRACKING" GOOD STORY



# WITH A CHAPTER BY GIVAUDAN

For years the gases released in the refining of petroleum were squandered in firing the refinery furnaces. But recently research chemists discovered in these gases the very molecules needed to "build-up" ordinary gasoline to high octane aviation standards. Coincident with this, Butadiene, the basis of our rapidly expanding synthetic rubber supply, was found to be a by-product of the refining process.

A vital ingredient to the catalytic action that produces these twin essential products is aluminum chloride, of which the Givaudan-Virginia division of Givaudan-Delawanna is an important wartime producer. The aluminum chloride produced by Givaudan is the result of a special process whereby scrap aluminum is employed, thereby saving precious Bauxite for vital wartime sheet metal uses. Givaudan is proud that its facilities are being utilized to produce aluminum chloride, another in the lineup of wartime services at Givaudan to speed the day of Victory.

**GIVAUDAN-DELAWANNA, INC.**

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*Our plant facilities are available for any further contribution we may make to production of materials for the war effort.*

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Use EXCHANGE Brand Oil of Orange U.S.P. to put into your products the finest orange flavor and aroma.
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**ARE YOUR PACKAGES REALLY *fighting***

There are many paperboard containers going ashore with every landing operation, fighting, healing, feeding. They protect and carry the materiel of war.

But how about the articles you once sold at home in metal, transparent wraps, foil and deluxe containers. Every one of these that has been simplified to save is a job well done. Over-packaging and luxury sizes represent the waste we can't afford. We have to conserve all along the line.

Our organization may be of real help to you. Lighter, more rigid boards, coatings that save fibre, linings that protect—these are a few important aids in making paperboard give the kind of service a fighting nation needs. Strange as it seems, carton planning and redesigning require your attention and action *now*. We must be able to say that all our packages are really fighting to win.

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# 2-Ethylbutyl Compounds

## *that can be supplied now in limited commercial quantities*

**2-ETHYLBUTANOL**

$(C_2H_5)_2CHCH_2OH$

. . . is a colorless high-boiling (148.9°C.) liquid that is soluble in most organic solvents but only 0.43 per cent soluble in water. It is used in hydraulic fluids, synthetic resin varnishes, and wetting and ore-flotation agents. The introduction of the Ethylbutyl group increases the oil solubility of the resulting derivatives. Ethylbutyl esters of dicarboxylic acids are plasticizers possessing low volatility and water solubility. In azeotropic distillation processes where the complete removal of water is desired, Ethylbutanol is extremely effective.

**2-ETHYLBUTYL ACETATE**

$CH_3COOCH_2CH(C_2H_5)_2$

. . . is a colorless liquid that boils at 162.4°C. Resembling amyl acetate in many of its properties and having the same toluene nitrocellulose dilution ratio (2.1), it is used as a moderately high-boiling solvent in lacquers and synthetic resin finishes. Its evaporation rate is somewhat slower than that of amyl acetate; therefore, lacquers made with Ethylbutyl Acetate form smooth high-gloss films with little tendency to blushing or orange peel. Ethylbutyl Acetate shows promise in nitrocellulose printing inks.

**2-ETHYLBUTYL "CELLOSOLVE"**

$(C_2H_5)_2CHCH_2OCH_2CH_2OH$

. . . a glycol-ether . . . is a colorless liquid that boils at 186° C. Unlike Butyl "Cellosolve" it is almost insoluble in water (0.45 per cent at 20° C.) Used in synthetic resin lacquers, it should produce excellent gloss, lack of orange peel, and toughness of film. Additional applications for this compound include use as a constituent of hydraulic fluids, as a mutual solvent, and as a plasticizer intermediate.

The booklet "Chemicals Available in Research Quantities" describes more than 30 new chemicals now available for research study. Write for a copy.

*For information concerning the use of these chemicals, address:*

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*Unit of Union Carbide and Carbon Corporation*

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# A PRESERVATIVE NOT ON PRIORITY

# BUTOBEN

Reg. U. S. Pat. Off.

Have current shortages of materials made it necessary for you to revise your formulas requiring a preservative? Or are you, perhaps, looking for a more potent one?

BUTOBEN (*n*-Butyl Parahydroxybenzoate Merck), an antiputrefactive and antifermentive agent, is an effective, nontoxic preservative in various preparations, and can, in most instances, be used in place of some of the preservatives which now may be unavailable.

BUTOBEN can be used in acid and neutral products, as well as in moderately alkaline media. It is economical because of the small quantity required (2/100 of 1%), *i.e.,* only 1 ounce is required to preserve 35 gallons of a preparation. Suggested uses are in gum solutions for hairwave setting, and various types of liquid preparations, including face and hand lotions, cosmetic creams, medicinal elixirs, tonics, certain eye lotions, and emulsions.

BUTOBEN, while an excellent preservative for the aqueous phase of cosmetics, does not prevent rancidity of oils and fats, as this is not caused by micro-organisms, but by hydrolysis and subsequent oxidation, and for which purpose an antioxidant is required.

As many cosmetic and medicinal preparations are composed of several ingredients, some of which may be incompatible with certain preservatives, we suggest that you consult the Merck Chemical Service Department regarding your manufacturing problems and requirements.

Samples of BUTOBEN will be supplied to manufacturers on request.

MERCK & CO., Inc. *Manufacturing Chemists* RAHWAY, N. J.

New York, N. Y. • Philadelphia, Pa. • St. Louis, Mo. • Elkton, Va. • Chicago, Ill. • Los Angeles, Cal.

*In Canada:* MERCK & CO. Limited, Montreal and Toronto

# Meyercord Decals

## ASSURE FAST, COLORFUL BRAND IDENTIFICATION

Smartly designed packages deserve smart, modern identification. Investigate the unlimited effects in color and design obtainable with genuine Meyercord Decalcomania. Any number of colors, any design can be reproduced in any size—for application on glass, wood, plastic, glazed crockery, etc. Special production line techniques provide speedy, economical application on flat or curved surfaces. The durability and permanent adhesion of Meyercord Decals protect your brand-mark for the life of the product . . . and serve as permanent salesmen for repeat purchases. For full details write Dept. 1411.

Solon Palmer, Inc., New York, N.Y. use this multi-colored Meyercord Decal brand-mark (brown, yellow, and red) on the smartly designed blond wood package (illustrated above) containing their ASCOT BRAND Shaving Soap.

World's largest producers of DECALCOMANIA

*Back the Attack . . . Buy War Bonds*

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**Sales offices in principal cities of U. S. A., Mexico and South America**

*Official U. S. Coast Guard Photo*

## *Planning does it!*

**Behind the magnificent job of enemy submarine control by the men of our Navy, Coast Guard, Army Air Force and CAP, is efficient planning. And as a result, the submarine menace is diminishing.**

Whether it's dropping eggs on submarines or refining White Mineral Oil and Petrolatum, it takes intelligent planning to do the job right.

Thirty-nine years of this kind of planning . . . plus unmatched production efficiency . . . enables SONNEBORN to meet rigid requirements of the drug and cosmetic industries for White Mineral Oils and Petrolatums of unexcelled Quality, Uniformity and Dependability.

Along with every refinery and plant in the American petroleum industry, we are making government cooperation for victory our first consideration. However, we can still supply quantities of SONNEBORN U.S.P. and Technical White Mineral Oils and U.S.P. Petrolatums. (See partial list below.) And we are prepared to assist you in adapting these materials to the solution of your wartime problems.

Call on us, too, as others are doing, to help you in planning for peacetime production.

*Back the Attack—Buy War Bonds!*

**WHITE MINERAL OILS**

KAYDOL U. S. P. Heavy
ORZOL U. S. P. Heavy
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TYPE I: *Medium Consistency—White Protopet—Yellow Protopet and other colors*

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PETROMIX— Base for the manufacture of soluble oils and various types of emulsions.

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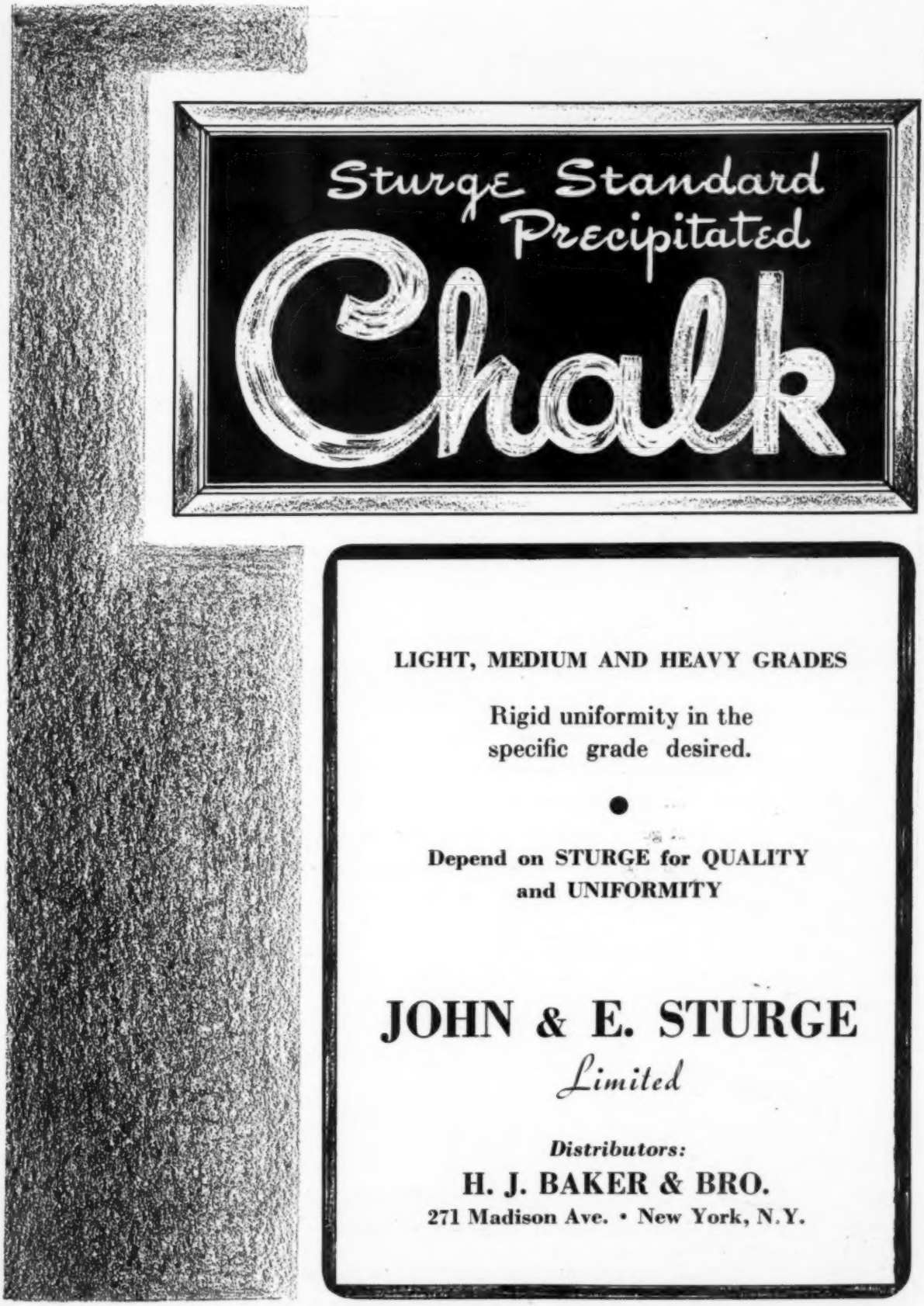


**LIGHT, MEDIUM AND HEAVY GRADES**

Rigid uniformity in the specific grade desired.

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# *Beauty and the War...*

**Womanhood marches on! In the factory, in the WAACS, in the WAVES, in the SPARS, on the home front . . . *everywhere* the weaker sex of yesteryear is taking an active part in today's fight for freedom! We're proud to keep faith with American women by doing our *utmost* to back them up with beauty needs that guard spirit and keep up morale. For beauty has important contributions to make to the war effort!**

**Furlager Mfg. Co. Inc.**
Powder Puffs and
Perfumer's Specialties

**Paris Cosmetics Inc.**
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Exclusively under Private Label

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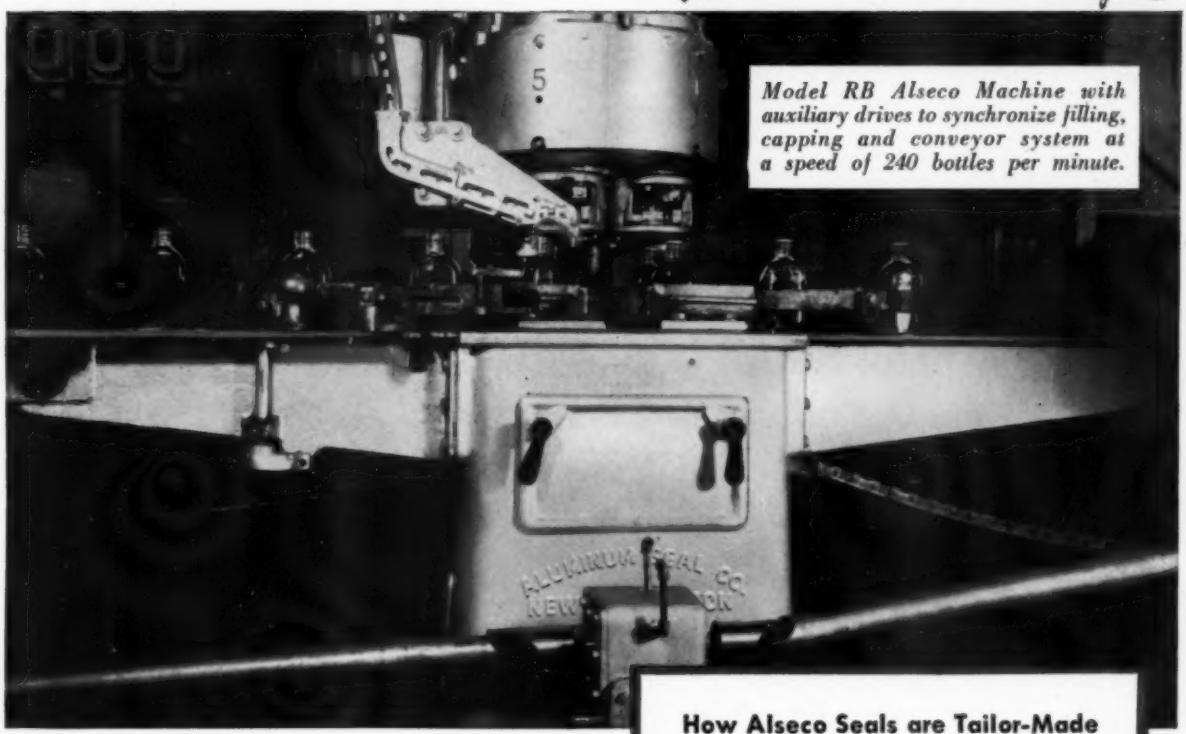
# HELPS YOU GET *Hard-to-get Dollars*



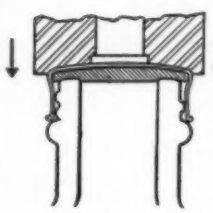
*Model RB Alseco Machine with auxiliary drives to synchronize filling, capping and conveyor system at a speed of 240 bottles per minute.*

*Hard-to-get Dollars* are the rare variety that stick with you after the subtraction is over ... subtraction of labor costs, raw materials, taxes, and all the rest.

Efficient, automatic Alseco sealing machines help you snag extra dollars of this choice breed by boosting your line's output per man-hour. They apply tailor-made Alseco Seals (see diagrams) with the speed and efficiency that will be vital in postwar competition.

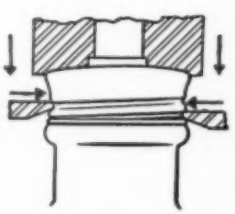
Now is the time to start your planning, so write us today for facts and figures.

## How Alseco Seals are Tailor-Made



**1.** Plain-skirted Alseco Seal is uniformly seated. Under stationary top pressure, container lip is embedded in liner evenly all around.

**2.** While held in that position, threads are Rolled-On to conform exactly to threads on container. Each seal is tailor-made, fits perfectly.



Trade Mark Reg ALSECO SEALS U. S. Pat. Off

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TAILOR-MADE

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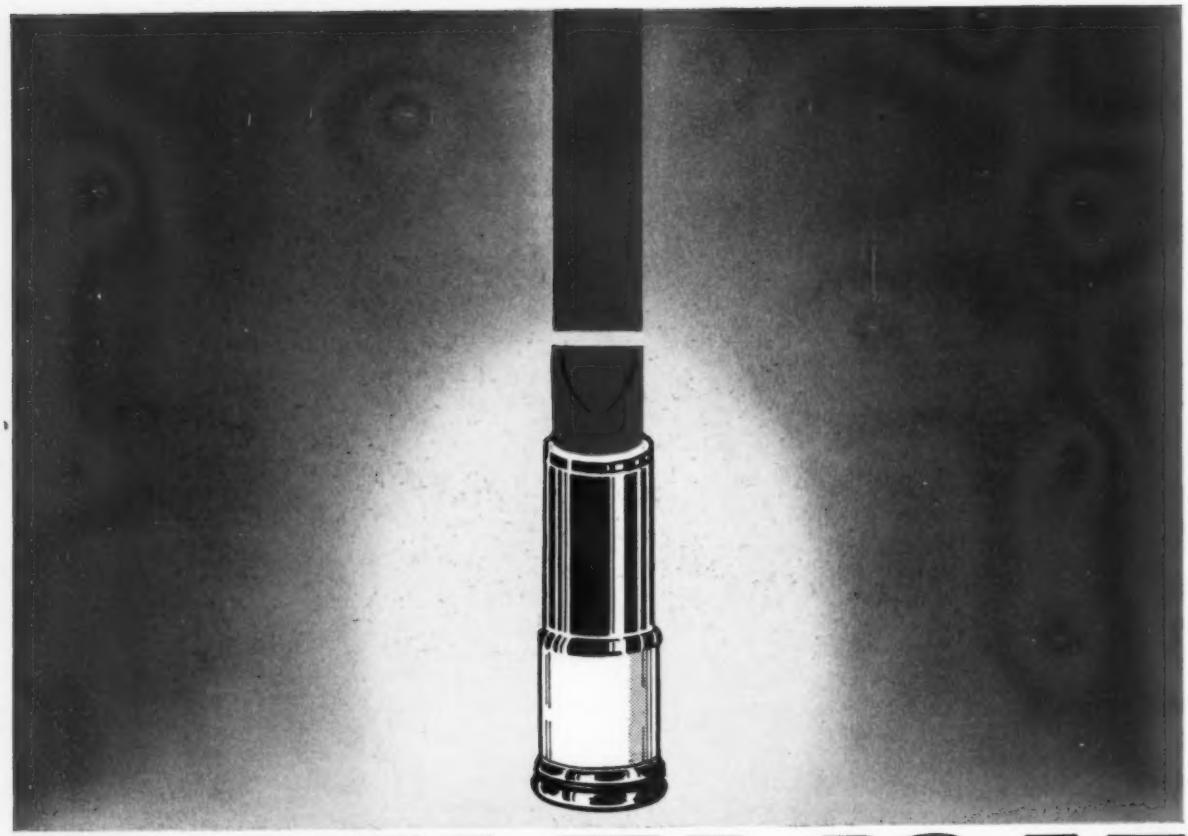

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| Lipsticks | Solid Perfumes |
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| Etc. | Etc. |

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TO US... GOOD WILL IS FAR FROM SOMETHING VAGUE OR INTANGIBLE. IT HAS BODY AND SUBSTANCE. IT IS BORN OF HARD WORK AND NURTURED BY GOOD WORK. IT IS INGENUITY AND FORESIGHT...COMMON SENSE AND RESPONSIBILITY... COOPERATION AND SKILL... PERFORMANCE AND SERVICE. YOU CAN'T ASSUME GOOD WILL OR TAKE IT FOR GRANTED... LIKE BREAD, YOU EARN IT!

*Felton Chemical Co., inc.*

# NOT AS *Easy* AS IT *Looks* . . .

PICKING the constituent elements of a successful big selling cosmetic is no easy matter.

Constancy in quality cannot be taken for granted. To assure yourself on this point, you deal with a firm who never compromises with quality.

***Products which are available to the perfumer at reasonable prices:***

OIL OF WHITE CEDAR
OIL OF CEDAR LEAF AMERICAN
*Exceptionally Fine Quality*
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IONONE METHYL
HYDRATROPIC ALDEHYDE
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***Requests for samples on your firm's letterhead and further information will be promptly furnished.***

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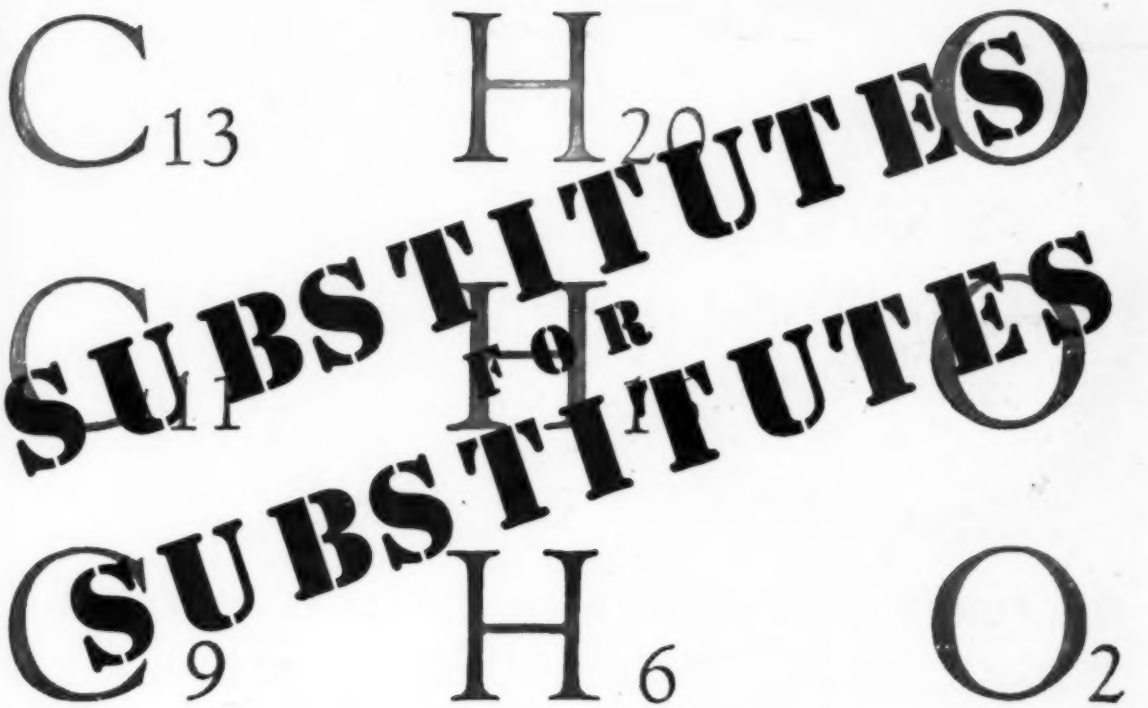


There was a time when life for the research chemist was comparatively simple. He'd create a new formula for grateful clients, or aid in bringing costs down by suggesting a change in basic ingredients. However, that was all — in what seems — the long ago.

Today, he is a much harassed man.

Not only are vital ingredients denied him — unavailable or price prohibitive — but the substitutes that he so painstakingly created to take their place, have themselves been placed on shortage or priority listings. Today, he must concentrate the full measure of his skill in the creation of *Substitutes for Substitutes.*

Many manufacturers, fighting to keep production moving, have turned to us with their problems. We have, in most cases, been able to supply the necessary help. Our research chemists have, for more than a quarter of a century, made the Florasynth name a byword in the industry, for the creation of effective and successful synthetics. So much so, that our reproductions of natural floral absolutes and true essences have long been accepted as *primary essentials* in the manufacture of countless successful perfumes, lotions and other toiletries.

★★★ *FOR VICTORY BUY U. S. WAR BONDS AND STAMPS* ★★★

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*Busy Chemicals for the War and After*

# TWO VERSATILE CHLORINATING *Agents*

## SULFURYL CHLORIDE AND THIONYL CHLORIDE

These two highly reactive inorganic chlorine compounds are particularly useful in the production of a variety of organic chemicals. Sulfuryl Chloride may be used to produce chlor phenols which are used as antiseptics and disinfectants. In the presence of organic peroxide catalysts, the reaction of Sulfuryl Chloride with hydrocarbons, organic acids and chlorides produces desired products with the exclusion of unwanted isomers or by-products. For example only m-xylyl chloride is obtained when m-xylene is reacted with Sulfuryl Chloride. With aliphatic hydrocarbons and benzoyl peroxide as catalyst, Sulfuryl Chloride will introduce only one chlorine atom per carbon atom.

Thionyl Chloride is most useful in replacing with chlorine the hydroxy group in organic compounds. Fatty acid chlorides and alkyl chlorides from alcohols are typical of this reaction. An interesting application is in the manufacture of the synthetic anti-malarial "Atabrine". Acid anhydrides may be produced by using one molecule of Thionyl Chloride for two molecules of the acid. Thionyl Chloride usually does not react with aldehyde, ketone or ethoxy groups and may therefore be used with acids of complicated structure where one of these groups is located near the carboxyl group.

Thionyl Chloride acts as a dehydrating agent and is an aid in the preparation of esters. This action is especially valuable in the production of esters of phenols. Send for Technical Bulletin #328.

Now is the time to get a head-start in the post-war race for business. Now is the time to discuss with HOOKER chemists the plans you have made for the day when victory removes war restrictions. Your ideas plus our ideas may help both of us in drawing on chemistry's limitless resources in the world of tomorrow.

Ask for list D-11 of principal HOOKER products with chemical formulas, descriptions, uses and shipping container data.

**HOOKER SPECIFICATIONS**

| | SULFURYL CHLORIDE | THIONYL CHLORIDE |
|---|---|---|
| Formula | $SO_2Cl_2$ | $SOCl_2$ |
| Description | Sulfuryl Chloride is a water clear heavy liquid with an extremely pungent odor. | Thionyl Chloride is a clear, colorless liquid with a pungent irritating odor. |
| Specifications | Hooker Sulfuryl Chloride High Grade is practically colorless, has a boiling range of 2° including 69.1 and is at least 99% pure Sulfuryl Chloride. Hooker Sulfuryl Chloride Technical is light yellow in color; it is not distilled. | Hooker Thionyl Chloride is a colorless to yellow or green liquid. |
| Shipping Containers | 5 gallon carboys holding 65 lbs. net<br>12 gallon carboys holding 150 lbs. net<br>55 gallon steel drums holding 725 lbs. net | 5 gallon carboys holding 65 lbs. net<br>55 gallon steel drums holding 725 lbs. net |

VICTORY SPECIFICATIONS • U. S. WAR BONDS • EVERYBODY — EVERY PAY DAY

**HOOKER ELECTROCHEMICAL COMPANY**
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# HOOKER CHEMICALS

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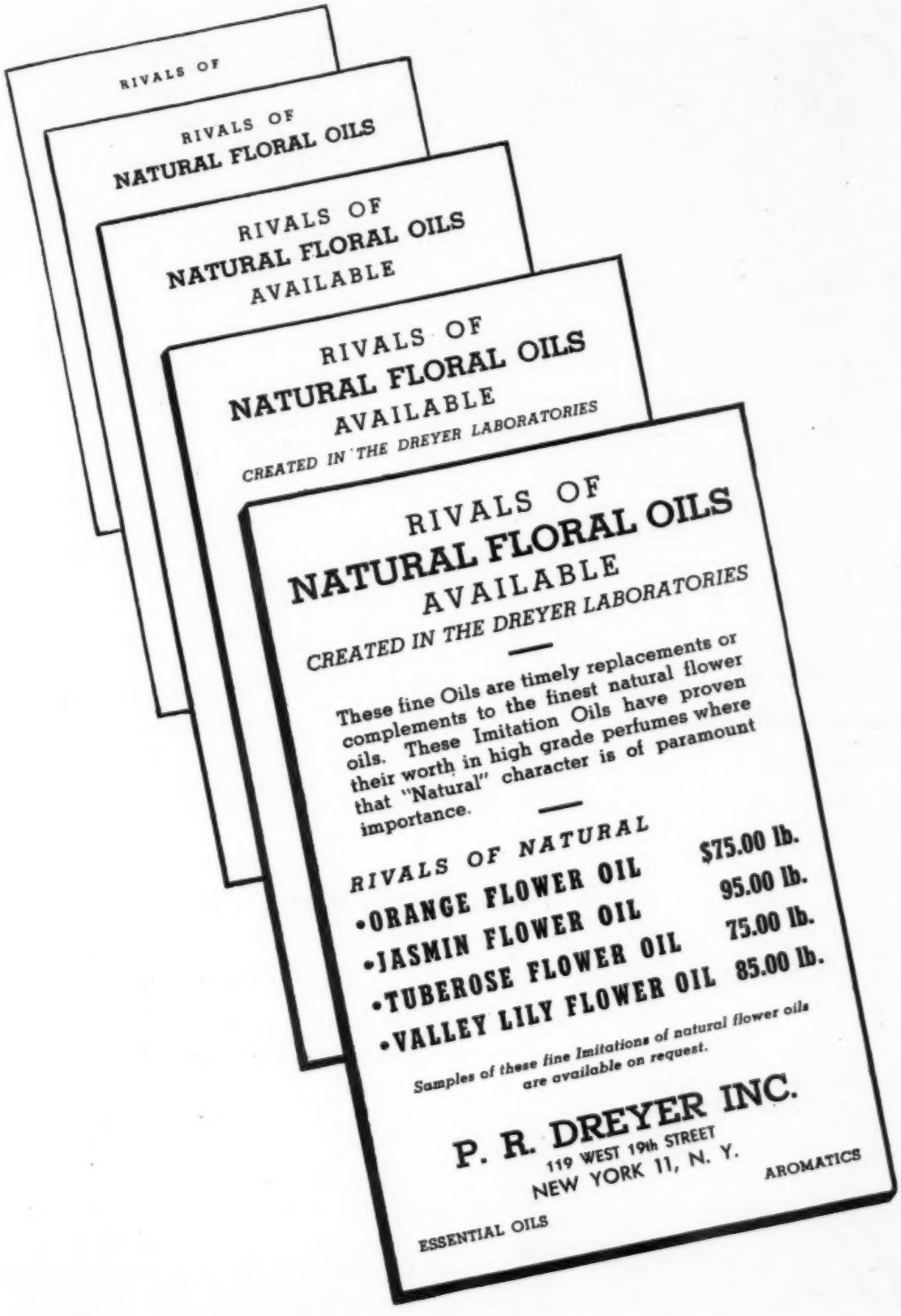
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These fine Oils are timely replacements or complements to the finest natural flower oils. These Imitation Oils have proven their worth in high grade perfumes where that "Natural" character is of paramount importance.
RIVALS OF NATURAL
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Samples of these fine Imitations of natural flower oils are available on request.
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ESSENTIAL OILS
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# HELIOCRETE "Schimmel & Co."

IN the face of present scarcities, the scores of satisfied users of our Heliocrete continue to receive supplies as before.

**Heliocrete** is four times stronger than Heliotropin and ten times closer to the natural odor.

**Effective** as a fixative, it is stable against alkali, economical, and has no chemical odor.

# SCHIMMEL & CO., INC.

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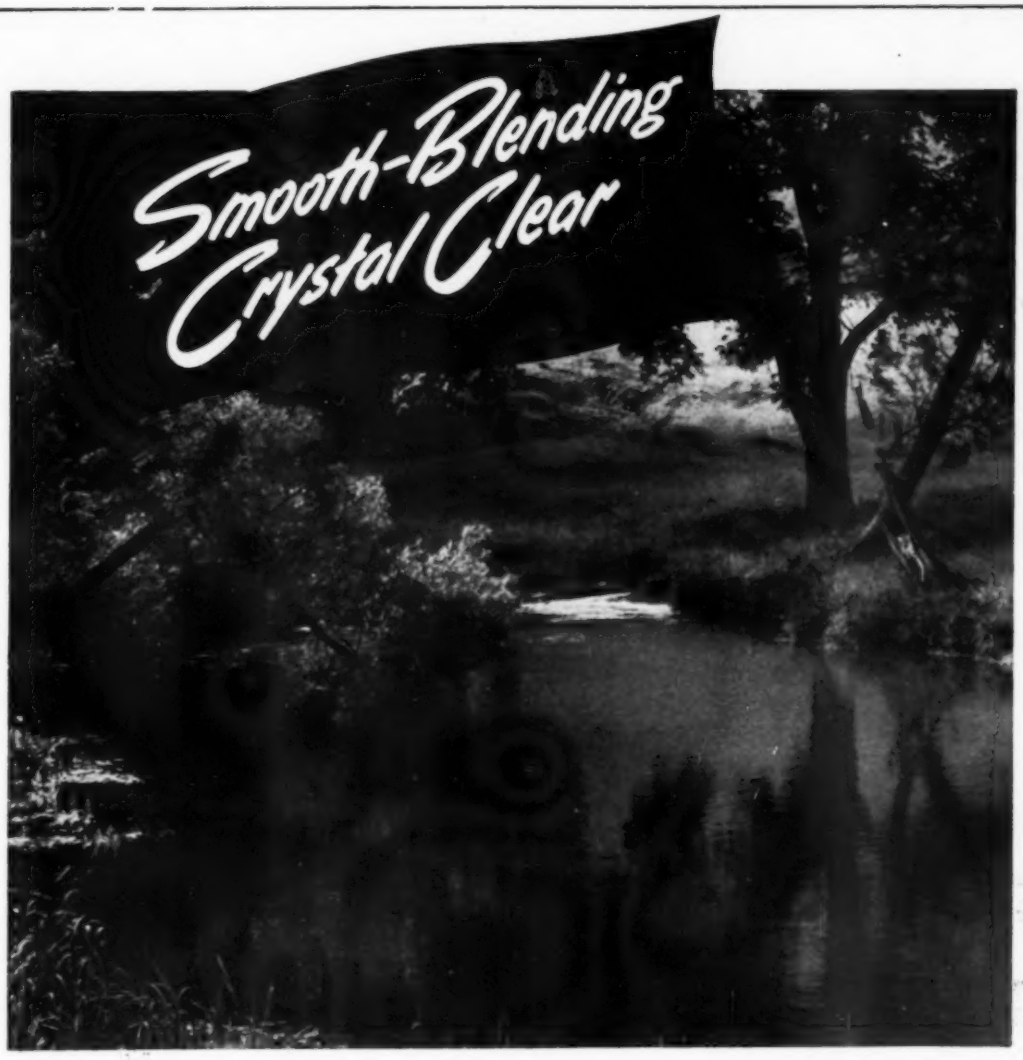
**WITH** the same extreme fixative power but double the strength of coumarin, and with the delicate sweetness of tonka-beans, this is a very valuable newcomer among our specialties.

*Write us on your firm's letterhead for experimental samples.*




# Penn·Drake White Oils

## make your good cosmetics better!

Crystal clear . . . unmatched brilliance . . . and all the qualities that assure finer, smoother preparations stem from Penn-Drake's seventy years refining experience. And these better qualities do not deteriorate on dealer's shelves!

*Write Dept. 103 for valuable information on Penn-Drake White Oils or other products.*

**Pennsylvania Refining Co.**

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Makers of White Oils (U.S.P. and Technical); Petrolatums (all grades and colors); Waxes and other petroleum products

# Analysis

● Chas. Pfizer & Co., Inc. has always regarded the careful and intelligent examination of all products as not only a necessary but also an important part of its manufacturing processes. We believe that the uniformity and high purity of our products cannot be assured without thorough examination and that it involves more than just the routine checking of materials against certain specifications.

The personnel of our Analytical Department is of the highest caliber and every effort has been made to make the most modern equipment available. Through thorough and careful analysis it has been possible for this department to make many suggestions which have resulted in improved products and improved methods of manufacture.

The research division of this department is constantly striving to improve or devise new techniques for the examination and analysis of our materials. New products, too, have always occasioned considerable analytical research, it often having been necessary to revise existing analytical methods to a great extent, or even to devise entirely new procedures. Needless to say, all of this would be impossible if analysis were considered to be merely a routine matter.

We feel that the reputation for dependability and high quality which our products enjoy is due in no small measure to our Analytical Department.

MANUFACTURING CHEMISTS • ESTABLISHED 1849

## Chas. Pfizer & Co., Inc.

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# RHODIONES

## to maintain consistent odor quality

Current shortages compel many changes in formulas. Yet, thanks to Du Pont chemists, you needn't gamble with any change of odor in your soap and perfume compounds. The important Rhodione group is typical of the way our Aromatics laboratory guards against any variation in performance or purity. Du Pont Rhodiones remain consistently uniform because they are chemically controlled at every stage of production.

One or more of the Rhodiones listed here can help solve some of your problems. Whether you employ them for soap, perfume, creams or powders, the Violet fragrance will remain characteristically sweet and true. E. I. du Pont de Nemours & Co. (Inc.), Organic Chemicals Dept., Aromatics Section, 40 Worth Street, New York 13, N.Y.

**METHYL RHODIONE SUPRA.** Newest contribution of Du Pont to Rhodione family—finest, smoothest, sweetest quality and of particular interest to makers of fine perfumes.

**METHYL RHODIONE EXTRA.** Has the characteristic Violet odor with a sweet, woody note. Adaptable for Violet and all bouquet compositions.

**METHYL RHODIONE #1.** Has an intense Violet odor with excellent lasting power. Especially suitable for use in soap compounds.

**RHODIONE AB.** Sweet and fragrant, with a high Alpha content. Widely used as a Violet base and modifier for floral and bouquet compositions.

**RHODIONE AB-1.** Recommended especially for soaps. The fresh, pure Violet odor maintains its intensity in blends.

*Du Pont Aromatics*

DU PONT BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

# AN EXPLANATION

## concerning the present

# LANOLIN & WOOL GREASE

# SITUATION

as governed by FDO 76, Part 1460—Fats and Oils Conservation and Distribution of Wool Fat

As America's largest supplier of Lanolin and kindred products, it is our opinion that an explanation should be made to industry as a whole, and to those who have favored us with their patronage in particular.

The entire crux of the currently difficult situation can be found in the opening paragraph of the War Food Administration order which places wool fats on a strict monthly allocation basis. It reads as follows—

> *"The fulfillment of requirements for the defense of the United States will result in a shortage in the supply of wool fat for defense, for private account and for export; and the following Order is deemed necessary and appropriate in the public interest and to promote the national defense."*

At present, requirements based on military needs have caused a limitation of authorizations by the WFA of monthly allotment requests. It is our hope and our sincere belief that this is a temporary expedient to be alleviated as government requirements are met.

Your industry, which has grown by tremendous strides even during these war years, has the ingenuity to carry on in the face of this new obstacle. When restrictions are lifted, supplies of premium quality Nimco Brand Lanolin and Neutral and Common Degras will be available again to all. Let us hope that further successes on the field of battle will speed that day.

America's No. 1 Choice Because It's 5 WAYS BETTER

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# N. I. MALMSTROM & CO.

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**DEGRAS** • Neutral and Common • Wool Greases

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# The amazing can... THAT BLOWS UP A BALLOON THAT CARRIES UP AN AERIAL THAT RADIOS AN SOS!

**Fantastic,** you say? Yes—but true!

This can is used in a new type life raft for bomber crews. In the top of the can is a hole. Into this is screwed a hose attached to a small balloon. Inside the can is *another can*, which slides part way out like a telescope.

The odd-looking unit is plunged in the sea. Then things happen!

The balloon inflates and soars 300 feet in the air, carrying aloft a radio aerial. A few minutes later a portable radio is sending out an *SOS*.

What blew up the balloon? Hydrogen. The can contains chemicals that generate hydrogen when submerged in sea water!

This is only one of many cans in the raft that help save American lives. There are cans for water, food, first aid, repair materials, even fishing tackle. They keep out rain, salt water, humidity . . . stand long storage and rough handling. Cans keep things *safe!*

Cans for civilians are limited now, but the war cans will be peace cans one day. And *better* cans—thanks to our wartime experience as "Packaging Headquarters for America."

**CONTINENTAL CAN COMPANY**

**100 East 42 St., New York City**

**HELP CAN THE AXIS—BUY WAR BONDS**

There's No Dark Secret to the
Bright Picture of COLORFUL LIPS!
H. Kohnstamm's LIPSTICK COLORS are the basis of many a famous product of the world's best lipstick manufacturers. They can be your basis for an outstanding formula, too.
Remember, the House of H. Kohnstamm was the original creator of Certified Food Colors and leaders in the manufacture of Purified Cosmetic Colors. A complete line of Colors, in full range, are yours to choose from.

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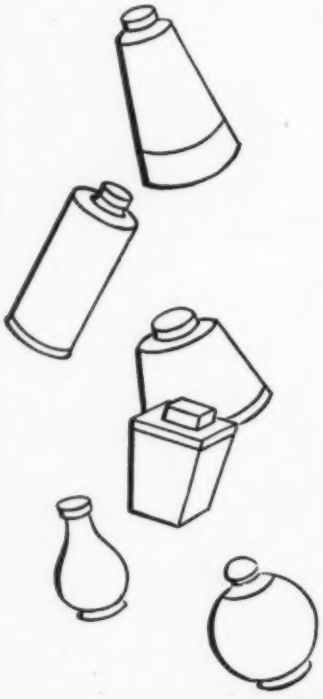

IN wartime, materials shortages make it difficult to standardize on any one package.

When you plan a new package, choose CORK for closures. Cork is the closure material available in quantities that guarantee a continuous supply.

**(Cork stocks in this country are larger than they've ever been in the industry's history. Cork products are being manufactured on a practically unrestricted basis. In fact, the government *recommends* the use of cork to replace critical materials.)**

And to insure a *better* package, choose DODGE as your closure manufacturer.

Dodge can help you design a closure to meet every requirement for sales appeal and utility. Dodge can design cork closures to fill specific packaging needs, or supply attractive Dodge Milbossed Top Corks in all sizes, plain or engraved with your name or trade mark.

Don't wait for peacetime to adopt a *better* standard closure. Write to Dodge today.

*Dodge Milbossed Top Corks are furnished in various sizes and colors —plain or milbossed with your name or trade mark.*

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**DODGE** *Closures*

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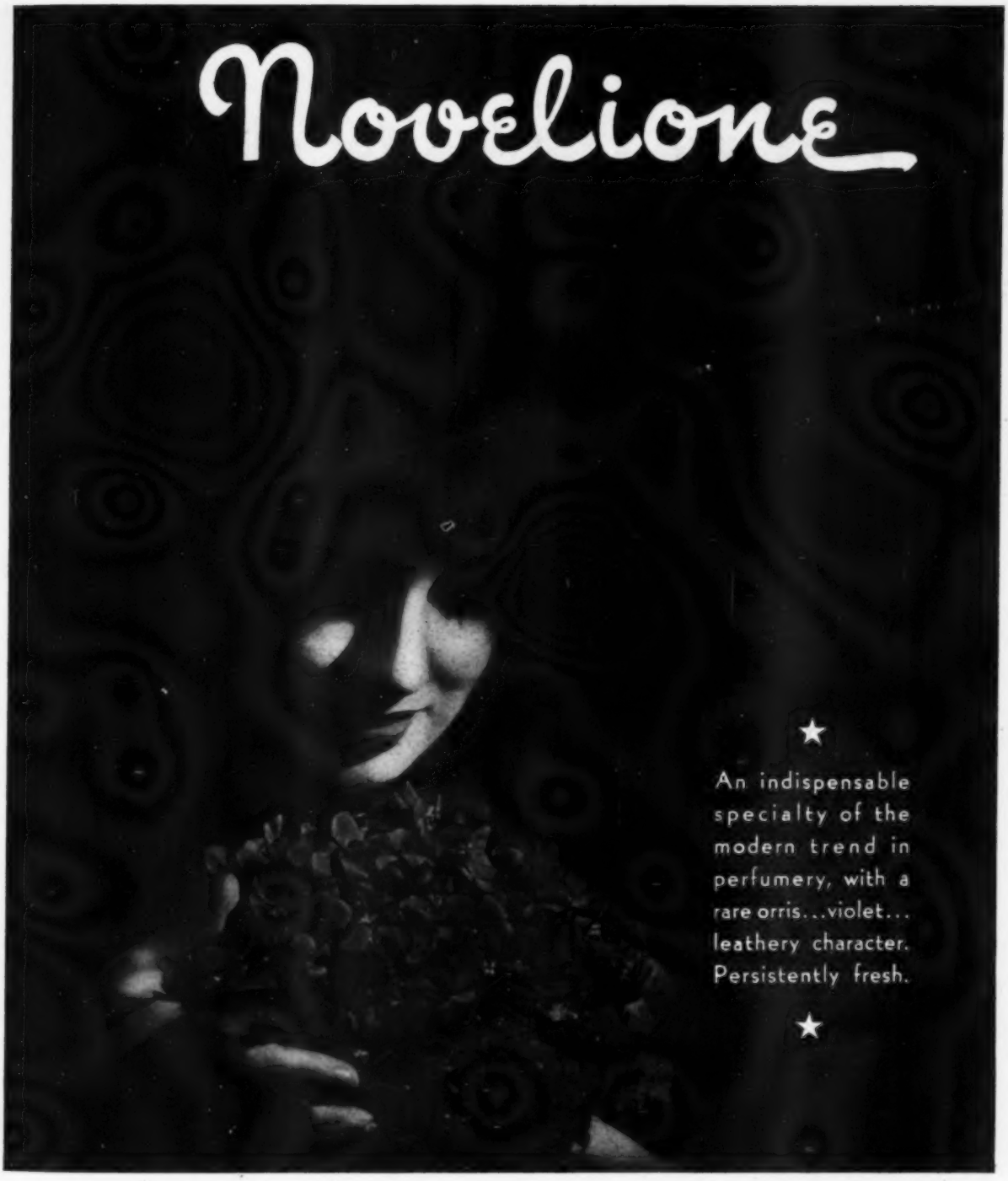
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## ALKALOID and SULPHATE U.S.P.

FIRST to supply substantial quantities of Atropine Alkaloid and Sulphate U.S.P., when war stopped imports, S. B. Penick & Company met a critical situation with resourcefulness, experience, and a wide extension of manufacturing facilities.

The position of Atropine today is, of course, more comfortable than it was in the early months of the war. But—unexpected demands are frequently made for very large quantities . . . therefore users—especially large users—are advised to estimate their requirements for the next six months, in order to cover them satisfactorily.

Prices, according to quantities required, are quoted on request.

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**Hydrastine Hydrochloride, N.F., Penick**
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# ONE THING

# *Empty Shelves*

# HAVE ACCOMPLISHED

***. . . but may fail to sustain***

**WAR-TIME** restrictions and rationed buying have served to make dealers aware of the importance of every item they normally carry. Even those that did not move rapidly.

But what about the time when those shelves fill up again? Will dealers quickly forget?

Not if your package is effectively designed to keep it out in front—where goods are seen and sold. Where repeat sales will serve to constantly remind your dealers that here is a product that is profitable for them to handle and display.

Ritchie designers stand ready to help you develop such a package *now* for the competitive post-war market ahead.

**W. C. *Ritchie* AND COMPANY**
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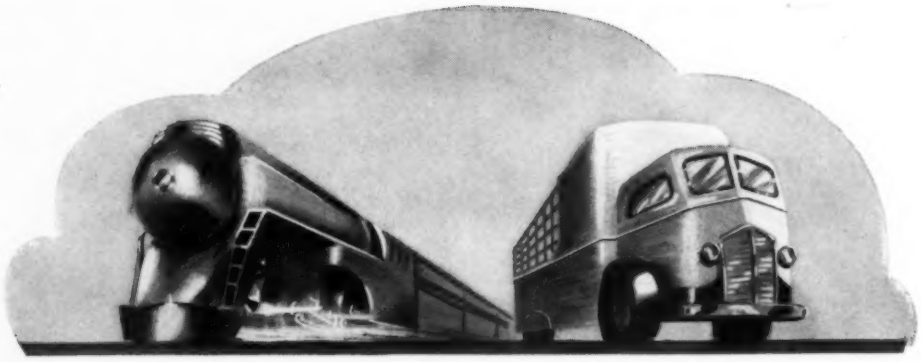

# Railroads and trucks have a tough job *too*

WITH facilities heavily taxed in transporting troops and materials, railroads and truckers grapple with their toughest job in history. In addition to meeting vital war requisites, they must utilize precious freight space to carry goods for civilian needs.

It is prudent and patriotic to anticipate requirements to allow for delays caused by shortages of materials, containers, production facilities and transportation. Place stock orders well in advance to eliminate production shut-downs which will make possible stock order shipments to relieve transportation congestion. Stock order shipments make possible minimum billings and freight handling.

***Naturally, in selecting a single supplier, you seek one with a full assortment of fine bulk pharmaceutical and cosmetic chemicals.***

Since 1867, MALLINCKRODT has been a primary source of fine chemicals for the pharmaceutical and cosmetic industries. MALLINCKRODT supremacy guarantees a wide choice of purest pharmaceuticals and chemicals, standardized by strict laboratory control. The guiding standards of maximum purity, uniformity and stability assure the ultimate in reliability, accuracy, effectiveness. . . . Insist on MALLINCKRODT, symbol of trustworthiness.

Subject only to Army, Navy and Lend-Lease priorities, MALLINCKRODT will deliver your requirements as long as raw materials are available. Stocks maintained in St. Louis and New York provide short transportation hauls to your plant. Catalogue will be sent on request.

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FOR VICTORY BUY UNITED STATES WAR BONDS STAMPS

# KEEPING POSTED

### Confusion in Vitamins

THE confusion surrounding vitamins and their usefulness does not seem to be clearing up as the result of statements by various physicians. For example, Dr. Ancel Keys and his associates of the University of Minnesota have published a paper in the Journal of Nutrition which indicates that there is little if any need for supplementing the average diet so far as vitamin B factors are concerned. Dr. Holt of Johns Hopkins, in a paper in the Southern Medical and Surgical Journal, states that the requirement for thiamine is perhaps one-third of that allowed by the National Research Council, and Dr. Nelson of the Food and Drug Administration, is said to hold the same view. However, Dr. Wilder of the Mayo Clinic, and others, disagree with this view, and appear to believe that there is a wide deficiency of the vitamin B group, and that considerable fortification is necessary in order to supply the daily needs.

Calling the vitamin business a "racket," Dr. Frederick J. Stare, of the Department of Biological Chemistry, Division of Nutrition, Harvard University, addressing the New York Academy of Medicine recently, said that the growth of the "racket" was based on "over-enthusiastic and misleading statements" and "unsubstantiated claims" for vitamins as a cure-all and upon misleading advertising that would make the public believe that one-half to two-thirds of the entire population is malnourished. Dr. Stare said that the public is probably the greatest abuser of vitamin preparations and that "the use and abuse of vitamins simmers down to whether there is any need for them in the specific case in question." If one is weak, tired, and fatigues readily, Dr. Stare said, the person believes he is one of the two-thirds of the population that is under-nourished.

"That may be the case, but it also may not be so," said Dr. Stare. "The result, unfortunately is a tremendous misuse of valuable and expensive material. In most cases a more intelligent approach would be to improve one's selection of food—that is if nutrition is at fault.

"There is excellent evidence that inadequate nutrition does impair health, that it may cause specific diseases, and that it may predispose and aggravate other diseases. There is also good evidence, not only with experimental animals but also with man, that really excellent nutrition over generations does result in marked improvement in general health, in greater resistance to disease and in better physical fitness. But vitamins are only part of nutrition and there is no evidence that man will become less fatigued, experience any fewer colds, or have more general resistance to disease by consuming extra amounts of the various vitamins.

"May I repeat, good nutrition comes from a wide choice and a wide variety of wholesome food, not from a poor diet supplemented with vitamins and mineral preparations."

Dr. Stare said it was as important "that we learn the things that good nutrition cannot do, as it is to learn what it can do," adding that there are no absolute requirements known for any of the food factors, only relative requirements.

For example, he declared, the amount of protein needed depends in part on the amount of fat and carbohydrate in the diet, the amount of thiamin depends on fat and carbohydrate, while the amount of riboflavin and niacin depends on protein.

### Domestic Botanical Prices Freed

DOMESTIC botanical drugs are no longer under any price control by the OPA. Previously, these products were without price restriction so far as sales by growers, and collectors of botanical drugs were concerned, although sales by community depots, local dealers, and large botanical houses were under price restrictions. In amending the order, the OPA says that the exemption would not increase the price of packaged drugs but would help maintain the supply of products vital to the national health. Sales and deliveries of imported botanical drugs are still subject to the Maximum Import Price Regulation.

### Soap Oils Not Restricted

COCONUT oil, babassu oil, and palm kernel oil, which were previously under restriction as to use, processing, sale, and delivery, are now free of restrictions due to FDO Order 46 being revoked by the Food Distribution Administrator on October 27.

### What a Nerve Department

BURMESE natives have asked the Army to use colored fabrics in *parachutes* which drop food and supplies to troops on the Burmese frontier; they use the discarded cloth for clothing and are tired of white.—*Science News Letter.*

## More Quinine Supplies

DESPITE the enormous production of synthetic anti-malarials in this country, negotiations are under way for additional importation of cinchona bark from Ecuador, Peru, and Bolivia. In addition to the large number of wild trees found in these countries, plantations devoted to growing cultivated cinchona trees have been and are being developed. Experimental stations in this country are also developing growth of quinine-bearing plants in the temperate zones. These imports are being increased for two reasons: (1) As the war expands in the South Pacific area demand for both natural and synthetic anti-malarials will increase sharply. Officials believe that the Allied forces will need all the quinine that can be produced. (2) Experience is showing that the synthetic anti-malarials do not, in many cases, have the same medical reactions as the natural product. As a result, quinine will have to be used in certain cases where a patient has shown unfavorable reaction to the synthetic drugs.

Ecuador is one of the biggest potential suppliers of quinine in the Western Hemisphere. A recently completed survey by the Ecuadorian Development Corporation, governmental agency directing collection of the bark for the United Nations, placed the number of wild trees in the country at 10,000,000, and stated that this was a conservative estimate.

The survey has provided the pattern for large-scale plans to expand production. Under these plans, laboratories and purchasing stations are arising in strategic locations. Location of the laboratories near centers of stands of cinchona trees will permit quick analysis to determine exact content of alkaloids in the bark.

A hitherto undeveloped cinchona area has been surveyed in the balsa pampa region of Central Bolivia, and a number of new regions have been discovered in Peru. There are some seventy-five varieties of cinchona in Peru, of which at least fifteen are acceptable in quinine production.

Difficulties encountered in penetrating the dense jungles and swamps surrounding the cinchona regions are now being studied by specialists of South American countries and the Office of Economic Warfare. Mules, hand-propelled river barges, railroads, ships, human transportation and planes figure in the solution.

Most of the gathering is done by Indian labor, and involves trips of as long as twenty-two days to bring the bark out of the jungles. Governments of the South American countries are seeing to it that trails and bridge spans are serviceable for transportation of the bark.

## Nail Polish Ingredients

ETHYL acetate and butyl acetate are still quite short in supply and are so urgently needed in the war effort that the Chemicals Branch of WPB is unable to assign a definite amount of either of them for use in nail lacquers. According to WPB officials, "the situation in ethyl acetate has become slightly easier and it is within the bounds of possibility that some time material may be available for this use." Therefore, manufacturers of nail polishes should continue to file WPB 2945 forms requesting an allocation so that they will receive it the moment it becomes available.

## Citronella Oil

THE work of Dr. V. C. Dunlap, a Cornell plant pathologist associated with a Honduran farming company, provides a significant example of how new crops are expanding in the New World. On March 1, 1941, Dr. Dunlap set out 65 heads of citronella grass. By June, the number of plants had grown to 596. By the beginning of 1942, he had more than an acre of the grass. In 6 months, this had increased to 50 acres—and by the end of 1942, it had climbed to about 250 acres.

By the end of 1943, it will probably be at least 8,000 acres—enough to establish citronella as a stable crop for Central America.

## Fat Collection Improved

A PRIMARY obstacle to the full cooperation of meat dealers in the campaign to salvage used kitchen fats by serving as official collectors has been removed by an arrangement whereby the Railway Express Co. will establish a nation-wide pick-up service through its 23,000 agents to service those sections not now receiving regular calls from renderer's trucks. The company has instructed its agents to call at meat stores on request. There are now 250,000 stores in the country which pay four cents a pound for household fats, according to Ray W. Peet, chairman of the American Fat Salvage Committee. This announcement should be of particular interest to this industry for the reason that the more fats that are collected, the more possibility this industry will have of receiving supplies of glycerine.

## Fatty Acids Restricted

THE War Food Administration has restricted the use, sale, and delivery of fatty acids, which are defined as follows:

"Fatty acids" means all grades and qualities of fatty acids, whether distilled or undistilled, produced from animal, vegetable, fish, or marine animal fats and oils, excluding crude and refined tall oil, raw or acidulated foots produced in the refining of animal, vegetable, fish, or marine animal fats and oils, and fatty acids which have been processed to the extent that they no longer exist as such by reason of chemical changes or compounding with non-fatty materials.

Under the terms of FDO-87, a base period is set up comprising the six months period beginning January 1, 1943, and ending June 30, 1943. No user may accept delivery of any fatty acids if such acceptance of delivery will cause his inventory to exceed one-third of the total amount of fatty acids used by him in base period, other than fatty acids produced by the user. In other words, a user is allowed to have on hand a sixty day supply.

## Therapeutic Research Department

ACCORDING to Pliny, the Roman historian, catarrh was cured by kissing the nostrils of a mule. —*The Australasian Pharmaceutical Notes and News.*

Maybe the hardy Romans had a cure for pruritis ani.

### Pharmacy and Manufacturers

IN ADDITION to the letter, published in our October issue, from Linwood F. Tice, criticizing the article "Pharmacy and Manufacturers" which appeared in our September issue, we also received a letter of criticism from Henry M. Burlage, Professor of Pharmacy at the University of North Carolina. Professor Burlage also calls attention to the unanimous action taken in the executive session of the American Association of Colleges of Pharmacy at their meeting in early September, saying: "Because of the above action taken *since your editorial was written*, I believe that it would only be fair to correct this statement." He also says: "It was also pleasing to know that only three schools ever went on the 24 months program." Evidently we were talking to people who were acquainted with conditions in one or more of these three schools.

However, despite these minor errors upon which we are happy to stand corrected, we received a letter from a prominent ethical manufacturer who says:

"I like the article a lot because of its logic, its scope, and its practical suggestions. You have summarized in a very interesting and forceful way what is in the minds of the industry. Congratulations on the idea and its masterful execution!"

### New British Cosmetic Order

THE British cosmetic industry is now under a new Government order, No. 3. This was done because of the fact that the previous order was ineffective in stopping black market operations. The previous order put manufacturers under quotas based on the value of the goods they sold. The order was believed to be foolproof. However, unscrupulous manufacturers were able to sell greater quantities than they did before the issuance of the order. This was done by reducing the invoice value of the goods to a fraction of the normal wholesale value and selling to an associated company who then resold at the normal figure. In this way, a quota of $2,500 could be stretched to produce $25,000 per year. Therefore reputable manufacturers were in an untenable position. They could not meet this sort of competition and they saw their goodwill stolen from them. Open revolt was threatened unless drastic steps were taken to correct the situation.

The new order, under which all large scale manufacturers must be licensed before they can operate at all, and which fixes quantities and values rigidly, is expected to remedy the deplorable conditions which existed under the previous order. The Board of Trade, which enforces the orders, will be able to revoke the license of any manufacturer evading the provisions of the order. The board had no power to stop evasions under the old order even though they knew the violators and the methods they used.

### Toilet Goods Convention

THE Toilet Goods Association has set the date of its 1944 annual meeting as May 18 and 19 at the Waldorf-Astoria Hotel in New York. Therefore the convention committee, under the chairmanship of L. R. Root, is preceding with the necessary arrangements.

### No Questions

THE interesting fact about the recent luncheon meeting of the Toilet Goods Association was that despite the very large attendance of cosmetic manufacturers and suppliers, the question and answer session amounted to next to nothing. Despite the fact that WPB cosmetic chief Willard and OPA cosmetic chief Casey came all the way from Washington to answer any questions that manufacturers might want to ask, their time was pretty much wasted so far as the open meeting went. After the meeting, one manufacturer who is generally on his feet at such sessions asking interesting questions, explained the fact that he had asked no questions that day as follows: "There was not a man in that room who doesn't know where he stands. He knows his percentages and everything else. There are no questions to be asked today,—a year ago it was different."

This speaks quite well for the Government officials and it also speaks quite well for the manufacturers who have applied themselves to the task of finding out what the Government officials have in mind.

### Reagent Chemical Indictments

THE Anti-Trust Division of the Department of Justice keeps right on obtaining indictments against manufacturers despite the war effort and the elimination of Thurman Arnold from that division. Four companies have been indicted on the charge of fixing prices for reagent chemicals. The companies and individuals named in the indictments are: General Chemical Company, and Leonard F. Eiklor, director of the Baker & Adamson division of General Chemical which markets the reagent chemicals of that company; Merck & Co., and three of its officers, Vice-president James J. Kerrigan, General Sales Director of Reagent Chemicals Joseph K. L. Snyder, and Chief of Price Control Department John W. Wilson; the J. T. Baker Chemical Company, President Herbert H. Garis, and Vice-president Ralph A. Clark; Mallinckrodt Chemical Works, Chief of Laboratory Chemicals Division Arnold D. Alt. The indictment is a criminal one on two counts, the crime being a misdemeanor, and fines of $5,000 each against each company and each individual on each of the two counts would be the maximum penalty if the defendants are proven guilty.

### Some Lanolin Compounds Exempt

THE Administrator of FDO 76, restricting lanolin, has indicated that not all lanolin preparations are restricted by the order. For instance, a preparation composed primarily of petrolatum was held to be beyond the scope of the order. Therefore, manufacturers who are in doubt as to whether products in inventory are subject to the order, should send through an inquiry for official interpretation.

### Borax and Boric Acid

BORAX and Boric Acid have been removed from schedule A of Order M-161 which limits inventories. WPB states that due to the increased use of these products, inventory restrictions had to be removed.

### Wood for Containers

THE critical situation existing in lumber, veneer, and plywood, the Containers Division of WPB has limited the use of wooden containers. In the list of miscellaneous products, shipment of which is restricted by quotas based on a percentage of 1942 shipments, appear "Animal proprietary drug remedies," which are allowed a quota of 65 per cent of the wooden boxes shipped in 1942.

### Smuggling Drugs Into Germany

SMUGGLING into Germany of drug products, along with other vital materials has been uncovered by the British who recently intercepted five ships plying between Buenos Aires and Spain. Forty drums declared as containing paste were found to contain liver extract which is an important base in the food compound fed to U-boat crews. Six tons of material declared as bacteriological peptone were in fact stuffed with small containers of gland extract powder for the treatment of shock. Another discovery was drums with false bottoms smeared with putty and containing discs of platinum three inches in diameter and one-quarter inch thick. The platinum is used in the manufacture of nitroglycerin.

### Atabrine Toxicity

RUMORS were current that atabrine, or quinacrine made in this country was more toxic than that made in Germany in which country this synthetic anti-malarial was developed. These rumors are refuted by Dr. Elmer H. Loughlin and Dr. Richard H. Bennet at the Brooklyn, N. Y., Thoracic Hospital, and Dr. Edward Santora and Dr. Silvio Mattuci at Riker's Island Penitentiary, New York, as the results of investigations. Each of the two groups of doctors are said to have conducted their investigations totally unaware that the others were engaged in the same work. The report states:

"There was no appreciable difference in the clinical toxicity of atabrine dihydrochloride, made by American processes of manufacture from American basic materials, and atabrine dihydrochloride manufactured from German basic materials either by American or German Processes. In fact the report states further that "a greater number of symptoms were reported during administration of foreign atabrine that during medication with American atabrine."

With respect to the value of atabrine and quinine, the report states:

"Atabrine is as effective as quinine (or more so), both in suppressive use and in the treatment of clinical attacks of malaria. Mild, disagreeable reactions from atabrine may occur in a certain percentage of individuals . . . . (but) . . . . they are never serious and almost invariably disappear if the drug is continued. Toxic symptoms of any type are unusual in association with the treatment of clinical attacks with atabrine."

The Surgeon General's letter has the following to say regarding the effect of atabrine on fliers:

Extensive investigation has failed to show that atabrine in the usual doses has any effect whatever on flight capacities of flying personnel. Atabrine in suppressive doses has been taken by large groups for a year or more without known lasting untoward effect.

### Sulfa Ointment in Court

THE Food and Drug Administration is hauling into court a manufacturer of an ointment containing sulfanilamide. The manufacturer is the New Basic Products Company, Royal Oak, Michigan, and the product, known as "Pso-Ridisal" is labeled as being efficacious for psoriasis, and is widely advertised for this and other skin infections, according to FDA. The enforcement officials claim that the label statements are false and misleading. It is thought, however, that FDA does not like the idea of ointments containing sulfa being sold over the counter without a prescription. Recently an article published in a medical journal warned against the use of sulfa ointments on the eyes and the face.

Another interesting development in sulfa drug preparations is White's Sulfathiazole Gum now being marketed ethically by White Laboratories. While this product can be bought only on prescription and must be used under the orders of a physician, it is a natural development for White Laboratories who are the manufacturers of Feenamint and Aspergum. Naturally in the case of strep throats, prolonged contact of the sulfa drug with the throat is to be desired.

### The Cosmetic Sales Tax

DESPITE the fact that cosmetics and perfumes now carry a retail sales tax of 10 per cent, sales continue to mount and manufacturers are able to sell all the products that they can produce and package. And now that it appears that the retail sales tax is to be increased to twenty-five per cent, there appears to be very little doubt in the minds of manufacturers that this condition will continue. If this proves to be so in case the tax is increased as proposed, it should prove one thing to the legislators of this country, and that is that cosmetics are essential to women and that they skimp on most anything else in order to obtain the desired cosmetics and perfumes. Such a state of mind on the part of the women of this country should give pause to those who so readily tax cosmetics. What do these legislators think will be the attitude of these women toward them when they cast their ballots on election day?

### Aluminum for Lipsticks?

THERE seems to be a possibility that some aluminum might be available at a future date for the manufacture of lipstick holders. At least the drug and cosmetic section of WPB is said to be investigating the situation. Aluminum, once very scarce and in short supply, is now being produced at a truly phenomenal rate, and it must be possible that as certain war needs subside a little, that there might be sufficient aluminum for the cosmetic industry. WPB recently made aluminum available for a number of uses for which it previously could not be obtained, but cosmetics were not included in these grants. Therefore, while the WPB officials do not hold out any hope to the cosmetic manufacturers, the manufacturers are hoping that some of the metal will soon come their way.

## Alcohol for Vinegar

ALCOHOL is being released under order of WPB for the manufacture of vinegar, and thereby hangs a tale. The reason given by WPB is that the shortage in cider vinegar is caused by a short apple crop but that's not the way we heard it very recently.

It seems that some months ago makers of cider vinegar, cider, apple sauce and other apple products were ordered by the Food Distribution Administration some months ago to raise the price that they paid for apples from $2.50 to $3.10. This was done according to FDA, to assure a large crop. The packers asked whether the OPA was going to allow them to raise their prices on the finished products and they were told that the OPA understood the situation and that manufacturers would not be asked to take a loss.

Although the OPA price increase was not forthcoming, some packers started buying apples at the new price and packing their products. Others refused to start buying apples until they were certain that they would not have to take a loss on the finished products. Still others who started to pack, quit doing so very shortly after they started because the new price was not authorized. In the meanwhile the apples available were not bought by the packers and vinegar manufacturers with the result that there will be a serious shortage of cider vinegar and other apple products. Now it is necessary to turn to alcohol and take some of this critical material to replace the product from the fruit that is no longer available. The OPA is said to have had the price order ready some time back but the legal department of OPA killed it because it was not "holding the front." The order had not been issued during the first week of this month.

A somewhat similar situation exists in other fruits such as strawberries and results for the fact that packed strawberries, jams and other things are scarce. The reason is not that the Armed Forces and Lend-Lease are taking too much of these materials, but it is because ceiling prices are placed on strawberries and other fruit beyond which the packers cannot go in buying these fruits. Consequently the fruits are sent into the fresh fruit market where higher prices can be obtained with the result that the packed goods are scarce and the point values have to be raised.

## Apple Sirup Restricted

APPLE sirup, or what "Old Gold" calls apple honey, is going to be in smaller, rather than larger supply, we are told. This is due to the fact that the Food Distribution Administration believes that it is more important that apples be used for food purposes rather than as a substitute for glycerin in tobacco or other products. One person told us that the production of sufficient apple sirup for the tobacco product manufacturers would consume all the apples grown in New York State—and that's some apples. Producers of apple products who have been approached by people wanting apple sirup have been told by the FDA not to take the contracts. We are told that "Old Gold" will get some apple sirup but not as much as is wanted. So the possible exploitation of this recently discovered apple sirup will have to wait until after the war. At that time if plastics and other products consume sufficient glycerin, then apple sirup might find a market. But until then, at least, it is pretty much a dead pigeon.

## Tin Salvage Slowing Up

WHAT has been anticipated for some time is beginning to occur in the salvage of tin from collapsible tubes. That is the pure tin tubes which were used before the war are not coming in for salvage in very large quantity, but in their place are coming the tubes that replaced the pure tin tubes and these contain so little tin that salvage is hardly worth while. It is said that such a condition was expected to develop within a year after the salvage program was undertaken, but surprising it did not come about until the salvage program had been operating for eighteen months.

It strikes us that in the face of this condition, the thing to do would be to eliminate the requirement that an empty tube must be returned when a new tube is bought and place the return of the tubes on a voluntary basis as it was in the beginning. The reason why we suggest this is because once the trade-in requirement was put into effect, people with tin tubes in their homes stopped turning them in voluntary and hoarded them against the day that they might need them to purchase more products in tubes. It strikes us that there must be a very large number of pure tin tubes lying around in many homes. A concerted effort to get these returned on a voluntary basis might bring in a sizable last quantity of tin from this source if the trade-in requirement was revoked.

## Salvage Mistakes

THE paper shortage is really critical, and while we are being curtailed to a greater extent during the coming year, the corrugated situation is quite desperate. Which brings us back to the time that everyone was interested in saving waste paper only to have the need for this material disappear. Now it is difficult to get a waste paper campaign under way again. Some time ago we had our office stacked with waste paper which we turned over to the superintendent of our building who would sell it into the proper channels. Finally we had to throw out a great big hoard of waste paper. At home we had our garage stacked with waste paper because the local fire department called for the stuff and sold it. This condition does not exist any more. It is like the tin can salvage campaign which was started all over and then only continued in a few cities because the amount of tin cans supplied by these cities was all that the detinning plants then in existence could handle. Now more detinning plants are in existence, but it is most difficult to revive interest among the people who once joined in the spirit of the campaign, only to have no one call for the tin cans which they had carefully cut, washed, and flattened. It is certainly time that some properly organized system, properly explained to the public was inaugurated. Why could not the people who were saving tin cans which were not collected be told that they would be gladly taken when sufficient detinning capacity was available? Why could not someone in authority have kept interest in the waste paper collections alive against the day that they must surely have known was coming?

# SMEARING THE DRUG MAKERS

From recent activities in Washington it might be possible that a concerted effort is under way to "smear" the pharmaceutical and drug manufacturing industry. Why this should be so is something that we cannot understand unless it is tied up with the attack on the medical profession in an attempt to place the control of the practice of medicine and the supplying of remedial agents in the hands of the Government under some bill such as the Murray-Wagner-Dingell Bill.

Within recent years there have been many examples of this smearing process. Always these activities have had something behind them. It will be remembered that the Standard Oil Company of New Jersey was unmercifully smeared because of its agreements with Germany on synthetic rubber arrived at long before this country had any idea of a war breaking out in Europe. Likewise the Dow Chemical Company was unmercifully smeared because of its agreements with Germany on magnesium metal. Dow had been breaking its neck for years previous trying to interest the Army to use magnesium in its planes, only to be repeatedly rebuffed. However, when the war broke, Dow was accused of restricting magnesium in this country because they had made an agreement with German manufacturers.

Now the smearing seems to be starting against companies in this industry. The first one that we noticed was the charge that the Wisconsin Alumni Research Foundation, instead of keeping to its announced purpose of protecting the public against "unscrupulous commercialism" had been led by love of profit to act "as a screen behind which a group of monopolistic chemical, pharmaceutical and food companies control vitamin D." This charge was made October 21 before the Senate War Mobilization subcommittee by Assistant Attorney General Wendell Berge. Why the charge was made at all is difficult to understand—other than the desire to smear—since Mr. Berge said that although anti-trust action against the foundation had been considered, it was not pressed when the Ninth Circuit Court of Appeals found that the Steenbock patents were invalid.

Everyone in this industry who is in any way interested in vitamin D knows that for many years past there have been at least two processes other than the Steenbock process for production of synthetic vitamin D, or Viosterol. These people also know that some years past the U. S. Supreme Court declared that it was illegal to control prices through patent licenses. Another peculiar thing about the report to the Senate subcommittee is that only four of the five pharmaceutical houses who were licensed under the Steenbock patent were listed. Those named are Mead Johnson, Squibb, Parke Davis, and Abbott, with no mention made of Winthrop who were in the Viosterol picture from the beginning. We wonder if this omission of Winthrop's name was because of the fact that the Government itself now controls Winthrop through seizure of the German interests in that company.

The second smear came to light recently when Attorney General Biddle announced the filing of a civil suit in the U. S. District Court at Trenton, N. J., charging that Merck & Company, of Rahway, N. J., and E. Merck Chemical Works of Darmstadt, Germany maintained a cartel agreement. It seems that because of the confusion caused by the names of the companies, an agreement was drawn up in 1932 under which the United States and Canada became the exclusive territory of Merck & Company, while E. Merck obtained South America and other parts of the world as exclusive territory, while Cuba, West Indies, and Philippines became joint territory.

Since the outbreak of the war in 1939, the British blockade prevented E. Merck from supplying many foreign countries. During this time Merck & Company again entered the South American market. However, Merck did not use the name "Merck" in this business, preferring to use the name of Powers-Weightman-Rosengarten, a company which merged with Merck about sixteen years ago. While this was a perfectly natural step to take in order to avoid confusion of the names at a later date, the Government charges that Merck & Company took this action for the sole purpose of protecting the South American business for E. Merck after the war.

Drug and pharmaceutical manufacturers are being attacked by government agencies. Is there a concerted effort to smear the drug manufacturing industry? Such an effort could be part of the socialized medicine effort.

Surprising in the complaint filed against Merck & Company is the statement that the agreement covers approximately 400 pharmaceuticals and chemicals, including quinines, *sulfa drugs*, *vitamins*, narcotics and mercurials. How an agreement could be drafted in 1932 covering sulfa drugs and vitamins is beyond us since there were no sulfa drugs or synthetic vitamins in existence in 1932. The first report on the sulfa drugs was published in Germany in 1935 by G. Domegk who received the Nobel prize for his work. It was later than this that the sulfa drugs came into this country. The first report on the synthesis of vitamin $B_1$ was published by Williams in this country in 1936. The first report on synthetic vitamin $B_2$ was published in Germany in 1935 by Kuhn and Karrer. The first report on the synthesis of vitamin C was published in England in 1932, and in France and Germany in 1933.

But this Merck case is not to be the last of this type of thing for the Anti-Trust Division of the Department of Justice is preparing to file suits against a number of drug and chemical companies who are accused of having entered into agreements with foreign companies in violation of the anti-trust laws. And while the cases in themselves may amount to very little or nothing, the unpleasant publicity which is fed to the public who know nothing of the merits of the cases is distinctly harmful to the causes of the manufacturers but is decidedly helpful to the accomplishment of the ends that certain people in the Government have in mind.

We fail to see any sense to a program which awards an Army-Navy E to a company for excellence in the production of goods needed in the prosecution of the war, and then turns around and accuses the company of disloyalty and hails the company into court wasting much time and money for this valued producer of goods to aid the war effort.

While it is difficult to believe that all government departments work together at the same time in a thing of this kind, we wonder why it was that the OPA picked out vitamin products upon which to order a price reduction. As we have stated before, we see no reason why such an action should have been undertaken in the first place because it is our opinion that the OPA has no such power and that will eventually be proven in the courts if such an order is issued. But even if such an order is issued and eventually voided by the courts, the pharmaceutical manufacturers will in the meantime have had plenty of publicity that will not look so good to the public. Perhaps the OPA does not care whether or not such an order does stand up so long as they can join in the smear and help speed the day when the practice of medicine and the production of remedial agents will be completely under the direction of government officials.

With the state of conditions in Washington today as the result of most people concentrating on the war effort, anything is liable to happen. And no one knows what steps some people are taking to accomplish results and no one suspects what these people have in their minds. With the Department of Justice shooting at the industry in one way, and the OPA shooting at it in another way, there is no telling where the next move to discredit the industry will come from. It begins to look as though the drug and pharmaceutical manufacturing industry must be constantly on the alert in an attempt to forestall any attacks that might be in the making, or else be ready fully and completely to answer these attacks when they break. We hope that the vitamin manufacturers have their answer ready so that the public will not think that the OPA has done something greatly to their benefit if and when OPA issues an order reducing prices for vitamin preparations.

For if the public believes that the OPA performed a great deed in its interest by ordering lower prices on vitamins, then even though the courts void the action, the public will demand such a power be given to the OPA or some more permanent so that they will be fully protected against price-fixing by manufacturers not only in the case of vitamins, but in the case of all drug products, and eventually in the products of all industries.

# ALCOHOL SHORTAGE

**The facts surrounding alcohol production show a shortage ahead, despite the use of all the molasses available and further use of grain which will further curtail our supply of meat. Another source which will eliminate the shortage is not being used.**

The alcohol situation in this country is apparently not in a satisfactory state. WPB has stated that the supply of alcohol is reaching a dangerously low level because of the demands of the synthetic rubber manufacturers. The stockpile has already been reduced from 140,000,000 gallons to 120,000,000 gallons, and by the end of the year it is predicted that it will be 90,000,000 gallons. Next year's requirements of alcohol are estimated at 640,000,000 gallons, and under the most favorable conditions the government experts say that not more than 590,000,000 gallons can be produced. Even if there are no unforeseen difficulties or mishaps at the distilleries, the inventory will be down to 40,000,000 gallons by the end of 1944, and that represents a stockpile of three weeks requirements.

In order to meet this inadequate production of alcohol, cuts in war supplies will be necessary in unexpected quarters. It is said that the alcohol production schedule for 1944 contemplated the use of 162,000,000 bushels of grain, an increase of 93,000,000 bushels from the 1943 consumption. Diverting 69,000,000 bushels of corn from animal feed to the rubber program will reduce the meat supply by approximately 690,000,000 pounds, or 20 pounds per family.

It is said that the Government plans taking over a million tons of sugar for conversion into alcohol by the regular alcohol producers in this country. With reference to purchasers of Cuban molasses, the Government has refused to pay the price of 13.60 cents demanded by the Cubans and paid them for molasses in 1942. The Government has offered to pay 5⅝ cents. The fact that the Government would not pay the higher price, caused the Cubans to go very heavily into the distillation of gin which has been imported into this country in exceedingly large amounts, potable alcohol in Cuba rising from 25,000,000 gallons to more than 70,000,000 gallons annually. However, the Government has been contemplating banning imports of this alcohol and gin for beverage purposes into this country, which action would leave the Cubans with no outlet for their molasses in this country except to the Government in the form of molasses.

Owing to a drought in the eastern end of Cuba and the curtailed sugar crop of last year, producers estimate that the sugar crop for next year will be a maximum of 4,100,000 tons. This will sharply curtail any additional high test molasses production, and Cuban labor would undoubtedly oppose the delivery of any part of this crop to this country in the form of molasses.

The difficulties with the molasses situation are further complicated by the fact that ships are necessary to bring the molasses to this country, and all the ships available can be put to better use bringing supplies and troops to the theatres of war operations. And even if the molasses was brought in there would still not be enough to give us all the alcohol we must have.

The surprising thing about all this is that there is a way by which the alcohol shortage can be met without resorting to molasses with all its attending difficulties, such as using necessary ships, cutting the meat supply, stopping Cuba from exporting gin to this country, and so forth. This is the method of producing alcohol from the waste sulfite liquor of paper plants. This method of producing alcohol has been used in Sweden for many many years, It was tried in this country in years gone by, but it was not as economical as the production of alcohol from molasses. Therefore, it has not been used here. However, at the present time, the cost of things are not always the deciding factor. The problem is to get everything we can without causing shortages in other directions. And this necessarily includes the use of all waste products that can be utilized in any way. Waste sulfite liquor has been running down the drains of our paper plants as long as we have been making paper. Here is a chance to use this waste material without causing any shortages in other materials, and the waste material will yield one of the most vital things that we need for the prosecution of the war. In case any doubts that the Swedes are the only people who can produce alcohol from waste sulfite liquors, let us state that at a certain paper mill it has been demonstrated that alcohol can be produced from this material that has always been a problem from the point of view of disposal without poluting streams.

The U. S. Forestry Service has determined that by processing all such waste in the United States and Canada 80,000,000 gallons of alcohol can be produced

*(Continued on page 578)*

# QUININE— AFTER THE WAR

By T. W. DELAHANTY and E. D. SCHUTRUMPF
Drugs and Pharmaceuticals Unit, Bureau of Foreign and Domestic Commerce

"MALARIA in its many forms constitutes one of the great scourges of mankind today—if not the *greatest*. It poses problems of the utmost immediate and future importance." These statements were made on the floor of Congress, a little over a year ago. Those conversant with the facts think of the malaria belt in the United States and the millions in our military service in contact zones throughout the world, as well as the responsibility that we have assumed through Lend-Lease and Relief and Rehabilitation. Additionally they ponder its consequences, as we plan the necessary activation of our Good Neighbor Program for Latin America and other areas where this malady is endemic.

In an economy such as ours, wherein the factors of efficiency and constructive effort hold such a prominent place, the continuing debilitating effect upon those afflicted and the ever-threatening spread of the disease are particularly challenging. Records indicate that people in uncontrolled malarious areas seem in many ways incapable of sustained progress, a fact which gives rise to thought of the current problems (but more particularly of the *future* problems) in this connection. For example: it has been estimated that malaria afflicts one-third of the world population (or perhaps as many as 800,000,000 people), an unfortunate group who, under repeated attacks of the disease, have lost their initiative more significantly, they are vectors for contaminating others through the carrier mosquito. Malaria represents an element working counter to the attainment of higher living standards. Consequently, were all sufferers assured adequate supplies of quinine, the only known specific, hand in hand with alleviation should go the incentive to eliminate the carrier and eradicate the globe-encircling disease.

Associated with the present-day problems of meeting military and civilian requirements of quinine and the planning of cinchona cultivation is the problem of "quinine after the war." Many persons who are now expressing concern over the situation feel that some type of international agreement or control should be effected to prevent a recurrence of a crisis in the world's quinine supply such as occurred with the fall of the Netherlands Indies.

The present critical situation with regard to supplies and the uncertainty as to future prospects of replenishing the United States diminishing quinine stocks are undeniably the result of uncoordinated pre-war control of production, distribution, and prices of cinchona bark. During the stages of early quinine development there existed at times localized overproduction which resulted in a drop in price; moreover, the improvement in the quinine yield of the bark through scientific cultivation was a factor contributing to the economic crises in the cinchona-bark cultivation of a number of countries.

Such an instance developed in the case of Ceylon, which in 1886 produced some 15,000,000 pounds of cinchona bark, more than half the world's production at that time. Because this enormous production upset the European market, the exportation of bark from Ceylon fell as rapidly as it had risen. The resultant slump in prices was a boon to the consumer but disastrous to the planter. In consequence, the industry collapsed, and with it went all incentive to continue British cinchona development in Ceylon. Lack of scientific cultivation to increase the quinine yield has also been cited as a factor contributory to the collapse, which severely depleted the world's resources of cinchona bark.

Ironically enough, a survey of a recent malaria epidemic in Ceylon found that country regrettably unprepared to meet the emergency. Out of a population of 5,000,000 persons, about 1,500,000 cases resulted in a mortality of 70,000, according to a statement of Dr. L. T. Coggeshall in the May 1 Journal of the American Medical Association.

Other countries having a high incidence of malaria are without supplies to meet the normal quinine needs of their own populations and, through failure to develop their cinchona resources, have had inadequate reserves to cope with epidemics.

The extent of the Ceylon tragedy calculated in terms of human life can be evaluated only when one considers the needs of a country such as India which has some 100,000,000 malaria sufferers, only one-third of whom receive malaria treatment. This situation may be

*(Continued on page 516)*

# OIL OF SWEET BASIL HAYTI

By LOUIS DEJOIE Ingr. Agr. I. G.*

SWEET basil oil in Haiti is a development of recent date and it is only for the fiscal year 1941-1942 that the Haytian statistics mention the oil for the first time. The first plantings on an experimental basis have been conducted in Aux Cayes in 1936 from seeds of different varieties harvested by the writer in the vicinity of Les Anglais. The plants issued from the seeds, although showing the general behavior of the French "Grand Basilic" were somewhat different as far as the abundance of the flowers, dimensions of the leaves and the specific gravity of the oils were concerned.

It is well known that poliomorphism is the species *Basilicun* is responsible for the very great number of subspecies, varieties of forms. Furthermore the basil flowers although hermaphrodite show an abundant cross polinization with a subsequent hybridation ending to abnormal and subnormal forms or strains of instable characters. In Hayti, in the blooming period, bees are sometimes so abundant that they prevent the easy cutting of the herb.

The sweet basil plant from which the Haytian oil derives has been obtained from a selection of eighteen different forms. In 1940, sixteen forms were discarded and the work continued on only two varieties, which seemed botanically closer to the French type of Grand Basilic. After some trial experiments with water and steam distillation, only one variety was finally kept, and mass selection continued for two years. This work was carried on while the author was Head Agronomist in the Department of the South, and were conducted in his private experiment fields dealing with perfume plants at Aux Cayes, Hayti.

The standards for selection were based on: (a) elimination of all plants of a leaf surface inferior to the average leaf surface of the Grand Basilic, (b) elimination of all plants showing less than twenty fruiting branches after four months growth from the seed bed, (c) elimination of plants which oil showed a specific gravity higher than 0.980 at 15° C., (d) elimination of all plants which the oil revealed camphor like odors.

During the 1942 Spring crop, in order to eliminate poor or undesirable strains, the author selected the 500 best plants about 32 inches wide and 24 inches high, from a two acre field and showing at four months from twenty to thirty fruiting branches. The same procedure was continued with the Fall crop on the same surface. And the fields shown in the pictures represent the results of 6 years of patient work to the effect of stabilizing the Haytian variety. Only seeds heavier than water are kept for nursery. This is in resumé the history of the plant producing the oil of sweet basil Hayti.

Two crops of basil can be produced in Hayti per year, and by the elimination of undesirable strains, by frequent roguing in the fields, it may be said that a fairly good variety of basil has been obtained, which seems to be the closest possible to the French type of "Grand Basilic."

### The Genus Ocimum In Hayti

The genus ocimum is classified by Urban as belonging to the family of *Labiatiae*, Barker and Dardeaux classify the ocimum in the family of *Menthaceae*, with the genus thymus, hyptis coleus etc. These authors report the following species as specific to Hayti.

(a) *O. Gartissimom L* Which is also found in Cuba, Martinique, Brazil, Cabo Verde, Island, Madagascar, Sandwich Islands.

(b) *O. Micranthum Willd.* Which grows in the Keys, the West Indies and Central America.

(c) *O. Basilicum L.* Which patria according to Urban is India.

In the herbarium of the Agricultural Experiment Station at Port-au-Prince, only these three species are found, they were collected by Eckman, the Swedish botanic explorer who died in Santo Domingo. No specimens of the different forms of *O. Basilicum* have been collected and that which represents the species in the herbarium is a form, the writer could call "obtusifolia," which was discarded in his own selection as producing an oil of S. Gr. above that of water.

Two forms perennial and flowerless have been found at Maniche, near Aux Cayes, by the author.

The other species of Ocimum, the *sanctum viride, lenuiflorum, fructicosum, canum, pilosum, micrathum* are unknown in Hayti.

*Former Chief Coffee Experiment Station and Head Agronomist Dept. of the South (Hayti).

BASIL IN FULL BLOOM — FOUR MONTHS

In June 1942, *O. minimum* was introduced by the Agricultural Experiment Station at Damiers and also O. B. var. *thyrsiflorum*, and variety *crispum* E. G. Camus.

### Brief Description of the Haytian Variety

*Ocimum Basilicum. L.* subvariety haitiensis is an annual herb of about 15-20 inches in height and 30 inches wide in full development. The stem is erect, extremely branched. Each branch bears flowers in noninterrupted spike like panicles always leafless. The leaves are glabrous lanceloate and gradually acuminate at the base and carry a long petiole about 1/3 the length of the leaves. They exhale an aromatic and specific odor. The flowers are white, the fruit an akene, measures an average of 2 x 5 millimeters. The fragrance of the flowers is more acute than that of the leaves. Basil flowers are freely visited by bees, and honey produced in winter, close to a basil field is suave, water white and reminds one of the odor of the plant.

According to Rolet there exists forty-five different species of Basil perennial or annual scattered in all the parts of the world.

### Economic—Species

Among all the different species, it is generally admitted that only those of Europe (France, Germany), India, Seychelles, Java, and Réunion furnish the commercial oil. Now, the variety *Haitiensis* can be added to the series, and it is the hope of the writer that the oil which is being offered since 1942 upon the American market will maintain its reputation, and compete advantageously, as far as stability of a fine quality is concerned, with that of any part of the world. It has the advantage of being produced only by a technician in the Haytian essential oil industry.

### Production and Cultivation of the Crop

Basil is generally grown from seeds, although the use of cuttings can be resorted to. In general plants from cuttings, especially in the Fall do not produce as much green matter as those from seeds, and, in consequence, yields a smaller tonnage per acre. Cuttings are preferably used for "supplying" provided an abundance of irrigation water is available. The root system is in general weaker than that of plants issued from seeds.

The seeds are sown in a well prepared seed bed, about two months before planting. The young seedlings emerge after three to five days, and are so tender that they must be protected for twelve to fifteen days against the direct rays of sun. After fifteen days they are uncovered and must be watered twice daily, some amophos in the sprinkler is often used to hasten growth. Potash and phosphoric acid should be abundantly applied as a mineral fertilizer in the seed bed, before sowing.

### Preparation of Land and Cultivation

Haytian basil is a surface rooter and a poor forager. It requires a well prepared soil, rich in humus, fully drained, the plant responds quickly to potash application in the form of carbonates. In poorly drained soil root diseases (rosselina sp.) destroy the plant. The land is generally plowed twelve inches deep and divided in small compartments about thirty feet long and ten feet wide bordered by small levees. Irrigation by secondary ditches between the compartments carry the necessary water.

The setting of the four to six leave plants is done by hand in line 20 to 36 inches apart according to the fertility of the soil, and the plants are set 15 to 20 inches in the row. Before planting the soil must be perfectly soaked. At the Experiment Station in Damiens the plants are set in rows and cultivated like Hontoka Chilli peppers. The writer does prefer the planting by compartments as the irrigation water can be applied more easily and the volume controlled by the height of the levee, ch. photo about land preparation.

Basil plant is very sensitive to weed competition, and hand weeding is the general practice. Frequent applications of water favors weed growth and four careful hand weedings are necessary for a good crop. The *best* fertilizer seems to be cottonseed meal applied two months before planting at the rate of four tons per acre, and thoroughly mixed, the soil which should be irrigated every week to hasten decomposition. The use

(*Continued on page 579*)

# ZINC PEROXIDE

By M. A. LESSER

SOMETIMES comparatively minor changes in the composition of a chemical substance greatly expands its usefulness. That is what happened in the case of zinc peroxide when a special medicinal grade, to meet certain specifications, was made available. Actually a mixture of zinc peroxide and zinc oxide, ordinary zinc peroxide as available commercially had found established, but rather limited usefulness in treating certain dermatoses and in the therapy of infected wounds because of its combined astringent and disinfecting action.

However, investigations by Meleney[1] of the prophylactic and active treatment of surgical infections with zinc peroxide, first reported in 1935, showed that ordinary grades of zinc peroxide were not suitable for the effective control of wounds infected with microaerophilic and anaerobic organisms. What was needed was a zinc peroxide which would release active oxygen for an extended period of time.

Continued research with the cooperation of industrial chemists eventuated in the production of a special medicinal grade of zinc peroxide that met the rigid physical and chemical specifications set down by Meleney. According to the Council on Pharmacy and Chemistry of the A.M.A.[2, 3] zinc peroxide medicinal is a mixture consisting essentially of zinc peroxide, with varying amounts of zinc oxide and zinc hydroxide. The zinc peroxide content must not be less than 45.5 per cent, equivalent to not less than 7.5 per cent of available oxygen. The medicinal product occurs as a fine white, odorless, crystalline powder that is insoluble in water but which forms a smooth paste which does not cake or harden.

Two brands of zinc peroxide, medicinal, have been accepted by the Council. Methods for making zinc peroxide with properties comparable to the material used by Meleney have also been described in the literature. Especially noteworthy are the procedures recently presented by Toal[4] in England. In one method, zinc peroxide is prepared by mixing 24 Gm. of zinc oxide with 33 cc. of 100 volume hydrogen peroxide, allowing it to digest at room temperature for about six days, and finally drying on a water bath. In another process, zinc peroxide of high oxygen content that is fairly stable at high temperatures is prepared by dissolving 430 Gm. of zinc sulfate in 250 cc. of warm water. This is allowed to cool and just sufficient strong solution of ammonia (approximately 433 cc.) is added to redissolve the precipitate. This is then heated on a water bath with 300 cc. of 100 volume hydrogen peroxide. This is tested with permanganate after acidifying, and removed from the bath when no titration value is obtained. The material is allowed to stand overnight after which the supernatent fluid is siphoned off; the residual zinc peroxide being dried at 80° after washing on a Buchner filter.

Other methods for preparing zinc peroxide have been described in both the technical and patent literature.[5, 6] However, there are reports that ordinary zinc peroxide may give satisfactory clinical results when dispersed in certain suitable media.[7]

The major uses of zinc peroxide in medicine stem from the basic work done by Meleney and Johnson[8] over a period of years of experiment and clinical study. These workers found that zinc peroxide, applied to a wound suspected of harboring anaerobic, micro-aerophilic or some especially susceptible organisms (e.g. hemolytic streptococci), acts as a prophylactic in undeveloped infections and as an actively curative agent in already infected wounds. In their first work, done on chronic undermining burrowing ulcers, these workers noticed that the causative organism in the wound lost its anaerobic then its hemolytic properties; while its progeny became a non-hemolytic aerobic green streptococcus which persisted in the wound but which, nonetheless, allowed the lesion to heal.

In this report, as in subsequent papers, Meleney and Johnson stressed the importance of using a zinc peroxide which was capable of liberating oxgyen slowly over a long period of time. They found that the agent affords effective action against susceptible microorganisms provided the medication reaches all infected areas. In some instances surgery may be necessary to reach such localities.

Although continued studies have helped to elaborate the effectiveness of zinc peroxide against certain organisms, they have also demonstrated its ineffectiveness against others.[9, 10, 11] In addition it has been

Zinc peroxide is an interesting material with many uses in the products of this industry. Complete information on its uses, together with formulas, are given in this article.

found that under certain circumstances, as in closed wounds, zinc peroxide may have the disadvantage of acting as an unabsorbed foreign body.[12, 13]

With a recognition of its limitations, the use of this oxidizing agent has found extensive use in treating wounds of many types. Because of this wide usage and its importance in surgery, the sterilization and application of zinc peroxide has become quite standardized. To sterilize the special medicinal grade of zinc peroxide powder, small quantities (e.g. 10 to 50 Gm.) are heated in a dry oven for four hours at exactly 140° C. Lower temperatures are not quite so effective, and higher degrees of heat may result in decomposition of the material. The powder should not be sterilized more than once, since the heat treatment not only destroys microorganisms, but also activates the evolution of oxygen. However, it may be kept and used in its sterilized state for several weeks, but the zinc peroxide begins to deteriorate slowly after a month's time.

When a dressing is to be made, the powder is made up with sterile distilled water to a smooth, creamy suspension of about the consistency of heavy (40 per cent) cream. The quantity depends upon the size of the wound to be treated, but should be sufficient to cover the wound surface with a layer approximately one-eighth inch thick. This first layer, applied with a syringe, is then covered with gauze or a thin layer of cotton soaked in the suspension and this in turn covered with compresses wet with sterile distilled water, and the whole sealed with an impermeable covering of some kind. Dressings are usually changed every day but may be left on for longer periods.

This procedure is essentially that used by Meleney and by many of those who have employed zinc peroxide therapy for wounds. From their extensive experience, Meleney and Johnson[8] found that this material is indicated, both prophylactically and curatively, in gas gangrene and tetany resulting from gunshot wounds. The senior author also used the peroxide as a prophylactic in accidental surgical and operative wounds where anaerobic or micro-aerophilic contamination was suspected; for all mouth operations; and as a preparatory measure for hysterectomy. Therapeutically, he found the material valuable in treating foul-smelling infections of dental origin, neck infections, lung abscesses and chronic empyemas, as well as chronic abdominal sinuses, fecal fistulas and human bites.

In short, his work encompassed many of the now-established uses for zinc peroxide in surgery. Later users of this material have not only verified the value of zinc peroxide but have even extended its wide range of usefulness. Zinc peroxide has proven to be especially useful in treating ulcers, particularly those of an undermining or burrowing nature.[14, 15, 16, 17, 18, 19] Its value has also been demonstrated in the therapy of infected surgical and traumatic wounds,[12, 20, 21, 22, 23] of compound fractures and amputations,[24, 25] tumors and cancer,[26, 27] bedsores[28] and certain necrotic conditions,[29] Although zinc peroxide has been shown to be of definite efficacy in the treatment of gangrenous conditions, such as diabetic gangrene,[30, 31, 32] experiments with regard to its value in gas gangrene have yielded variable results; this depending to some extent upon the contaminating organism studied.[15, 33, 34, 35]

In addition to its antibacterial effect, the slow release of oxygen from zinc peroxide has made this material extremely useful as a deodorant for foul-smelling lesions, such as those of cancer, radiation ulcers and the like.[27, 36, 37] Not only did the use of zinc peroxide help to control fetor and infection, but in many cases it reduced pain as well. As a result of such therapy, Freeman[38] found that patients were freed from embarrassment and were able to return to normal social contacts and interests.

Not all workers have employed zinc peroxide in the form of an aqueous creamy suspension. Astley,[28] for example, also used it as a one per cent suspension in gelatin, or in 5 per cent pyrophosphate solution for the treatment of bedsores. Because zinc peroxide suspensions, as generally recommended, show a tendency to cake after an hour or so, Noel and Lynn[39] worked out the following combination to overcome this difficulty:

| | |
|---|---|
| Zinc peroxide (2PO special medicinal) | 40 |
| Sorbitol | 15 |
| Tragacanth | 1 |
| Ringer's solution (or water) to make | 100 |

(*Continued on page 581*)

# NOVEMBER ALLOCATIONS

ACETALDEHYDE: All requests granted in full except for inventory adjustments.

**Acetic Acid**

No civilian end uses were denied, but requests for the following were allocated up to and including 90 per cent of the individual requests:—textile processing, 1,260,734 pounds; drugs and pharmaceuticals, 1,022,915 pounds; photographic, 137,369 pounds; metallic acetates (excluding sodium acetates), 113,293 pounds; plastics, 1,687,125 pounds; soda acetate, 282,167 pounds; and laboratory reagents, 107,297 pounds.

**Acrylic Resins**

Raw material difficulties have necessitated drastic curtailment of acrylic monomer and resin uses, and allocations were made to the following uses only:—

Emulsions—100 per cent as requested for finishing utility shoe leather.

Molding Powder—100 per cent as requested for dentures and pessaries.

Monomer—100 per cent as requested for dentures and vitamin intermediates.

Sheet—100 per cent as requested for commercial aircraft glazing.

All other civilian requests were denied.

**Acrylonitrile**

Requests for essential civilian pharmaceuticals allocated in full.

**Alcohol, Capryl**

All civilian requests were denied.

**Alcohol, Isopropyl, 91 Per Cent**

Granted 100 per cent for the following:—Acetone; brake fluid; chemical manufacture; de-icing; drugs and vitamins; germicides and removers; laboratory use; oil emulsion; plastics and resins; textiles; technical coatings; small orders; and isopropyl acetate. Granted 25 per cent for cosmetics and rubbing alcohol.

**Alcohol, Isopropyl, 95 Per Cent**

Granted 100 per cent for disinfectants; brake fluids; chemical manufacturing; oil emulsion; and textiles. Granted 50 per cent for technical coatings and cleaners and removers. Denied for cosmetics and rubbing alcohol.

**Alcohol, Isopropyl, 99 Per Cent**

Granted 100 per cent for acetone; brake fluid; chemical manufacture; de-icing; drugs and vitamins; germicides and disinfectants; laboratory use; oil emulsion; plastics and resins; textiles; small orders; synthetic rubber; cellophane adhesives; gasoline inhibitors; and pectin. Granted 50 per cent for cleaners and removers and for technical coatings. Denied for antifreeze; cosmetics; and rubbing alcohol.

**Alkanolamines**

*Monoethanolamine:*—Chemical manufacturing requests cut 67 per cent. Gas purification requests cut 50 per cent. Resale requests cut to actual needs of customers. Emulsion and cosmetic requests denied.

*Diethanolamine:*—Chemical manufacturing requests cut 65 per cent.

*Diethylethanolamine:*—Chemical manufacturing requests denied. Allowed 100 per cent for pharmaceuticals.

**Anhydrous Aluminum Chloride**

Granted 100 per cent for synthetic detergents; nylon; research, 500 pounds; and for fungicides, 2,000 pounds.

**Ammonia, Anhydrous**

Requests for industrial uses were granted 100 per cent. Requests for consumption of crystal urea were made in full except for cattle feed purposes. The demand for use in cattle feed was so heavy that only a small percentage could be allocated for this use.

**Ammonia, Aqua**

Granted 100 per cent for industrial uses.

### Ammonia Sulfate

Granted 100 per cent for industrial uses.

### Anilin Oil

Granted 100 per cent for photo chemical, 279,000 pounds; drugs and pharmaceuticals, 509,060 pounds. Granted 75 per cent of normal consumption for inks, toners, carbon paper, etc., 359,000 pounds; miscellaneous dyes, 664,205 pounds.

### Ascorbic Acid

Granted 100 per cent for medicinal, food fortification, research and miscellaneous.

### Bismuth Chemicals

Allocations were made on the following basis:—*Medicinal use* allocations totaled 68,091 pounds and were as follows:—all requests of 50 pounds or less, granted in full. One hundred per cent of requests for use in anti-syphilitic preparations, 100 per cent of requests for use in individual prescriptions. Eighty per cent of 1942 use (adjusted for inventory) for general pharmaceutical manufacturing.

Industrial uses totaled 721 pounds and were as follows: 100 per cent for essential uses. Cosmetics allocations totaled 190 pounds and were as follows:—50 per cent based on 1942 use and adjusted for inventory.

### Butyl Alcohol, Tertiary

Denied for detergents which was the only civilian use for which it was requested.

### Caffeine

Allocated in full for medicinal use. Granted in part for beverage use (50 per cent of average monthly 1941 consumption, adjusted for materials obtained on toll agreements and importations).

### Citric Acid

Beverages and all foods, with the exception of jams and jellies, were granted on basis of 80 per cent of 1941 use. Jams and jellies were granted 100 per cent requests, in accordance with policy of War Food Administration. Pharmaceuticals, chemical manufacture and small order exemption were given 100 per cent of 1941 use or of requests, whichever were less. Citric acid for general resale was given on basis of 80 per cent of 1941 use.

### Cresylic Acid and Metaparacresol

Allowed for medicinals, 21,000 pounds; and dyestuffs, 13,000 pounds. Domestic acid denied for textile agents, cleaning compounds, U.S.P. cresol and cresylic disinfectants and all other civilian uses. Imported acid allowed:—For disinfectants, 341,000 pounds (80 per cent); for textile agents, 187,000 pounds (85 per cent); and for miscellaneous uses, 80,000 pounds (90 per cent).

### Formaldehyde

Granted 100 per cent to the following civilian end uses, in the amounts shown below for the month of November:—Textiles, 681,300 pounds; dyes and intermediates, 471,150 pounds; leather, 224,320 pounds; rubber, 292,466 pounds; miscellaneous resins, 137,600 pounds; embalming fluid, 194,875 pounds; paper, 160,560 pounds; drugs and pharmaceuticals, 54,728 pounds; protective coatings, 65,600 pounds; disinfectants, 175,695 pounds; adhesives, 77,439 pounds; research, 23,460 pounds; miscellaneous, 53,920 pounds. Also granted 100 per cent for boiler water treatment; processed oil; metal treating; photographic chemicals; cashew oil resins; explosives; fungicides and insecticides.

### Glycol Ethers

*Carbitol:*—Allowed 100 per cent for the following:—Chemical manufacturing, cosmetics, coupling agent, general solvent, brake fluid, metal cleaner and cutting oil.

*Cellosolve:*—General solvent requests cut 50 per cent. Coupling agent requests cut 20 per cent. Allowed 100 per cent for cosmetics, and brake fluids. All requests screened for inflation.

*(Continued on page 576)*

## Quinine --- After the War

(*Continued from page 509*)

largely attributed to the lack of purchasing power of the lower income groups, many of whom are victims of the disease. They can afford only the bare necessities of life—much less quinine even at what might be considered a fair price. As a partial solution, the Government distributes quinine on a free basis or at cost, a system that might be extended to advantage. However, India can supply through its domestic resources only one-third of the requirements of the group mentioned, hence is a purchaser of large quantities of cinchona bark or quinine.

In these war days, the unusual activity in movements of troops, refugees, or other groups of people—many of whom are nonimmune—through malarious areas, has made the need for a prophylactic more acute than ever. The importance of quinine as a strategic war material has focused attention on procurement of quinine from every possible source, notably the American Republics—the original habitat of the cinchona tree. This endeavor is at present being actively fostered by the Office of Economic Warfare.

Aside from the military angle, the world's constant and enormous quinine requirement for the treatment of civilian malaria prompts this discussion on quinine in the post-war period. The economic and sociological effect of endemic malaria upon the human race should be sufficient to remove quinine from the pale of "pure commercialism" into a realm of "national responsibility."

A look into the future when the Indies shall be free of Japanese domination, presupposing that there will remain an appreciable portion of the pre-war cinchona plantations, brings up the question: "What now about quinine?" Certainly it is apparent that the quinine problem is one of international importance, and many persons have expressed the conviction that aggressive thinking and planning should be under way with a view to effecting agreement between the various nations which are suppliers as well as consumers of quinine and those nations which are wholly dependent for their supplies of either quinine or cinchona bark on the producing nations.

International cooperation is inherent in the malaria programs of: (1) the Rockefeller Foundation, (2) the Malaria Commission of the League of Nations. The Rockefeller Foundation Health Commission is supporting work in malaria chemotherapy in the United States, England, and India. For many years its activities in the field of malaria control have extended to cooperative work not only in the United States but in all parts of the world's malarious areas. The Malaria Commission held its first meeting in 1923 and was created as a result of conditions at the end of World War I. In 1918, the general malaria situation appeared aggravated, both by war conditions and the almost complete suspension of antimalarial measures, due to the disorganization of the general health services, the lack of doctors for civilian service, the insufficiency of quinine, and the lack of money. This Commission functioned continuously and as late as 1940, according to the latest available official journal of the League of Nations, was still in existence.

The Malaria Commission, a section of the Health Committee of the League, included in its program: (1) study of malaria remedies including the appraisal of the therapeutic values of various antimalarials, natural and synthetic, (2) epidemiology of malaria in many of the countries of Europe and Asia, (3) assistance rendered, upon request, to many such countries in studying and planning programs for malaria control, through sanitation measures, establishment of medical facilities, educational measures, and related efforts, and (4) study of the world's resources of cinchona bark and quinine. With respect to the last item, much information was gathered in reply to a questionnaire, a report covering which was completed in 1932. Replies were received from 111 health departments of malarial countries, of which 93 considered malaria a problem.

The Malaria Commission was planning to call together an international congress for consideration of the following rather pertinent problems, proposals covering which had been brought up at a number of the meetings of the Health Committee:

1. Inquiry into the world's requirements of quinine.
2. Present production and means of improving this.
3. Determination of whether the total quantity of quinine produced by all the factories in the world could be regarded as sufficient for the requirements of prophylaxis on a large scale.
4. Consideration of the advisability of establishing new quinine factories under government control with a view to obtaining pure and inexpensive products.
5. Development of the cultivation of cinchona trees in new countries.
6. Cost of production and sale price.
7. Distribution of quinine by the State or sale by private traders.
8. Sanitation projects necessary for eradication of mosquitoes and for malaria control.

It is apparent from the above that the many problems involved would require international collaboration and coordination in an endeavor to stamp out endemic malaria. It is not inconceivable to think in terms of international control or supervision such as that which is administered by the Drug Supervisory Body of the League of Nations (created under the Convention of 1931) for Limiting, Manufacturing and Regulating Distribution of Narcotic Drugs. True, the latter is merely a restrictive measure covering dangerous drugs. Any organized body which might be created for the administration of cinchona and quinine production, distribution, costs, and related factors would be of even greater service, since a large part of the population in malaria-infested regions are helpless victims. In the first place they are unable to purchase quinine for prophylaxis at existing prices, and secondly their respective governments have been unable to provide

adequate protection through (*a*) present health services, including free distribution of quinine, (*b*) sanitation projects to remove or control conditions responsible for endemic malaria, which are not always feasible because of special geographical obstacles and a cost beyond the economic level of the population.

Stepping-stones to a possible international accord with respect to quinine and malaria control are the existing mutual-benefit agreements between the Governments of the United States and of a number of American Republics. Measures taken were the cinchona agreements, and the joint malaria-control program of the Health and Sanitation Division of the Coordinator of Inter-American Affairs and the American Republics governments where malaria is a major health problem.

The latter program represents an important step toward a united effort to stamp out malaria in the Western Hemisphere. Primarily, efforts have been made to destroy the aquatic and adult stages of Anopheles mosquitoes and their breeding places. In addition to the engineering-projects program, provisions have been made and additional plans are being formulated for establishing medical facilities, educating the people, and similar essential measures. All the while, much quinine will be needed and should be available in proportion to the needs of the respective countries.

An equitable distribution of quinine according to national requirements might well be developed from these programs and (after the cessation of hostilities) extended to other nations. The procurement program of the Office of Economic Warefare involving development of methods of collection of existing cinchona bark and the exploring of unexploited forests; and the cultivation of cinchona trees is well under way. One may perhaps visualize, without undue optimism, an extension of all these projects to other nations and a recognition of the virtues of international effort toward a common goal—eradication or at least control of endemic malaria and betterment of sociological and economic conditions in affected countries.

The suggestion for a centralized body of international scope will naturally bring to mind problems that may *seem* insurmountable, not the least of which is that of maintaining the economy of the leading producing countries. However, a program of equitable distribution of cinchona bark and quinine on a cost-plus basis, which would enable greater numbers of individuals to purchase quinine and the governments to carry out highly necessary health programs, is capable of producing better economic conditions than have formerly prevailed.

Far-reaching and permanent benefits from such an international program are within the realm of possibility. For example: many people, as already stated, are incapacitated because they suffer from malaria; hence they contribute little, if anything, to the national economy. In addition they are a serious public menace, being vectors for infecting others through the carrier mosquito. Reverse the picture: they are effectively treated and become a source of labor—perhaps may even join the workers collecting bark, increasing numbers of whom are in gerat demand in many areas. Thus they contribute to the national economy and, by improving their living conditions, they help to bring about a higher level in national health standards. Further benefits will be realized by international cooperative sanitation projects for the eradication of the mosquito wherever possible and the control of malaria around infested areas. History has conclusively demonstrated that control measures in areas that were formerly unproductive have enabled such regions to develop industrially and agriculturally.

International experience through study of many types of malaria-control problems will be of invaluable assistance in coping with the different sets of conditions which will be encountered in the different localities throughout the world's malarious regions. The great need for an international cooperative effort was expressed in the recent statement of Surgeon General Parran of the United States Public Health Service: "Outside of the mental diseases there is no other disease (than malaria) of comparable importance against which we have made less progress during my generation."

So far no mention has been made of other antimalarials, such as totaquine, only recently officially approved in the United States, and the synthetics, atabrine and plasmochin. Each is of importance in the antimalarial program, and conceivably any international body might include them within the purview of a malaria program.

Stress has been placed on quinine, not only because it is the oldest and best-known antimalarial medicine but because, as a prophylactic, it is commonly considered superior to the synthetics. Furthermore, quinine may be administered safely by laymen or nonmedical persons; whereas a respectable segment of the profession believes that the synthetics require experienced medical supervision. Totaquine is a product of cinchona bark, therefore is subject to the same supply problems as is quinine.

Medical authorities engaged in research are virtually agreed as to the desirability of treating malaria with a series of doses of quinine, atabrine, and plasmochin. Every one of these three remedies shows a proper action on the parasite in one of its phases of development in the human organism. As yet, no drug can guarantee the prevention of relapses. It is not inconceivable that research will one day develop a synthetic—or series of remedies—or some product, perhaps a vaccine, that will even afford immunity, making it possible to dispense with quinine entirely. Until that day, the existing natural and synthetic antimalarials will be required in large quantities for the treatment of malaria.

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# MERCHANDISING NEWS and PACKAGING NOTES

### A Fantastic Business

While the cosmetic industry as a whole will show another tremendous sales increase this year—one which preliminary estimates indicate will be close to 40 per cent over 1942—there is one group within the industry whose sales progress has been really fantastic. That group consists of the smaller perfume lines which have been favored by a set of special conditions to the extent that a certain manufacturer in this field who had a $6,000 annual business in 1941, and who did about $20,000 in 1942, will this year do about $150,000 worth of business, and could do more except that he is an old hand at this game and is intent upon building as healthy a business as present conditions permit. In other words, even with this kind of an increase he is picking and choosing his accounts and then limiting them through a sales allocation policy.

The point to be emphasized is that this manufacturer's sales history is not an unusual, but a typical example of the kind of thing which is going on in todays' perfume market. The chief difference between this manufacturer and a large share of his contemporaries is that he has his feet on the ground and realizes that he is neither a genius or a captain of industry but one who is just riding the crest of a wave built up by a set of wartime conditions.

These conditions are both general and special. The general conditions are well-known and consist of tremendous consumer purchasing power and a limitation of most of the goods which would ordinarily share in the distribution of the consumer's dollar. The special conditions which favor the small perfume manufacturer are the severe curtailment and in some cases entire disappearance of big name French brands, plus the fact that the large domestic manufacturers are prohibited by their very size from taking full advantage of the conditions mentioned. They are held in check by their alcohol quotas and by their ability to get packages so that percentagewise they might be limited to sales increases of 25 to 40 per cent. But the smaller manufacturer, while he is also far from free to get all of the supplies he would like to have or could sell, has much more leeway and with any kind of luck and decent planning can do anything from five to ten times the business he might normally expect to do. For the large manufacturers even with the large volume they represent cannot take up the slack, the stores cannot keep stocked with enough perfumes to supply the demand and so they turn to the smaller manufacturer and take all of the merchandise he in turn can produce or is willing to give them. And no arguments about cooperative advertising, p.m.'s or demonstrators which used to accompany the opening of every account.

Hence the store counters and these pages have been crowded with new brands and new names in the perfume field during the past year or so. There seems to be but little point in recounting the names here, for it would be only repetitious and there are those who would resent being thus classified. But milliners, dressmakers, jewelers, actresses, titled-personalities and practically everybody else is in or has come into the market with a perfume.

This is not to say, however, that all of them are in the market for the first time. Many of them go back ten, fifteen or twenty years and have been

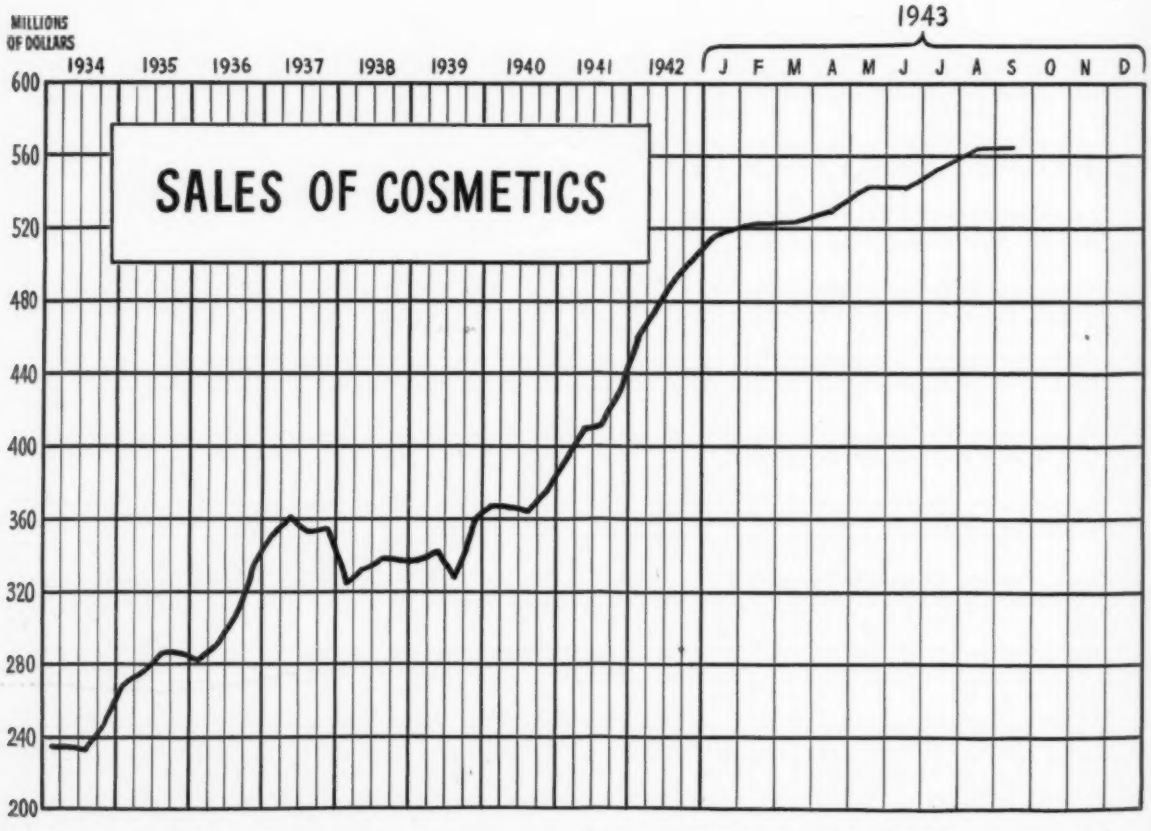
doing a small business during all that time either as a full-fledged perfume business or as an adjunct to some larger and more profitable business which carried them. But now, one and all have steam behind them, are spreading their distribution and making sales to an extent which would have been unheard of under any other conditions.

What the long-term picture will be is anybody's guess but, at the very least, and taxes notwithstanding, it would seem to indicate that this period will result in the establishment and intrenchment of an unsually large number of perfume manufacturers. In addition to the smaller ones which have been under discussion here, there is also the entrance of a large factor, like Shulton, to be taken into consideration, in any post-war perfume realignment.

With the end of the war and presumably the end of the conditions which have given the smaller manufacturers an advantage, and with the return of the big French names, the battle will be on. Having tasted some of the fruits of success, none, not even the smallest, will give up easily and all, even the smallest, will be pretty well heeled and fairly well established given even another year of business like this. If the market continues as large as it is today there will still be plenty of business to go around. If it continues to grow in the post-war years everything will be swell. But if the other should happen, then will the buyers climb back on their thrones and the air be thick once more with talk of demonstrators, p.m.'s, advertising allowances, special positions on the counter or in the store, exclusives, additional discounts and all the other jargon. They will make the manufacturer long for the good old days of OPA and WPB and quotas and allocations and the unending struggle for supplies.

### Bulk Perfume

Dispensing perfume by the dram has always seemed like a good idea for the purpose of sampling, but in the good old days of plenty of everything, perhaps was not looked upon kindly by all manufacturers and store buyers. Theoretically, the high class perfumer wouldn't admit that such a thing should exist; in practice he had to bow to it since it was prevalent before the war. In practice, there has been the danger of adulteration, misrepresentation and so on. However, dram sales have done the perfume manufacturer a good turn by permitting dram sales to those who could not buy perfumes selling only in $8 or $10 units. The profit was the same, and there was always the possibility that sooner or later the customer could buy her perfume in packaged form or have someone buy it for her as a gift knowing it was her favorite. While the economic situation has changed, there are still plenty of customers who are unable to buy perfume retailing for $10 or more, and also those with new money who would prefer to "try" a fragrance before investing in a large size. An important feature of the dram sales today is that the retailer reaches more potential clients who can be built up as post-war purchasers, and also that more




Sales of cosmetics for the twelve-month period ended September 1943 totaled $564,956,000, an increase of $1,801,000 over the $563,155,000 reported for the twelve months ended August 1943.

ADVERTISEMENT—*This entire page is a paid advertisement.* *Prepared Monthly by U. S. Industrial Chemicals, Inc.*

# U.S.I. CHEMICAL NEWS

November ★ A Monthly Series for Chemists and Executives of the Solvents and Chemical Consuming Industries ★ 1943

## Sodium Ethoxide Uses Widen in Making War-Essential Drugs

### Key Reactions Depend upon Product made Available by U.S.I.

Production of atebrin, the vitally-needed substitute for quinine, as well as of vitamin $B_1$ and sulfadiazine have tremendously increased the importance of Claisen Condensation reactions. As a result, demand for sodium ethoxide to serve as the condensing agent has multiplied rapidly.

In the preparation of atebrin, sodium ethoxide is used to condense the diethyl amino ethyl chloride with ethyl acetoacetate to form the side chain. In the synthesis of vitamin $B_1$, sodium ethoxide is required for the condensations of two intermediates: aceto butyrolactone and sodium formyl beta ethoxy ethyl propionate. For sulfadiazine, sodium ethoxide is used with ethyl acetate and ethyl formate to give ethyl sodium formyl acetate.

**The Claisen Condensation type of reaction, using sodium ethoxide, can best be illustrated by the preparation of ethyl acetoacetate from ethyl acetate, in which the reaction is:**

$$2\ CH_3COOC_2H_5 + C_2H_5ONa \longrightarrow CH_3C(ONa)\ CH\ COOC_2H_5 + C_2H_5OH$$

**(Neutralization of the ethyl sodium acetoacetate gives ethyl acetoacetate.)**

These uses for sodium ethoxide may well represent only the beginning. For with the ever-widening possibilities for commercial-scale production of complex organic synthetics, increasing use of Claisen Condensation reactions is bound to be made. Particularly will this be true when such products as ethyl sodium acetone oxalate, acetyl acetone, and aceto butyrolactone become available commercially.

Sodium ethoxide is now supplied by U.S.I. in an alcohol solution known as Anhydrous S.D. 2B, modified with sodium.

## *Recovers Alcohol, Acetone By Solvent Extraction*

An economical new process is reported for recovering low-boiling alcohols, ketones, aldehydes, etc., particularly from aqueous solutions of less than 5% strength. The process has been shown, experimentally, to require less heat and to permit recovery of many liquids from solutions too dilute to be handled otherwise. It involves solvent extraction, followed by distillation of the extract layer to give the organic liquid overhead.

## Revised Folder on U.S.I. Products

A new descriptive folder listing U.S.I. products and their more common uses is now available upon request.

# Synthetic Rubber Takes Big Tonnage of 'Secondary' Chemicals

### Many Important Applications of Chemicals Other than Butadiene and Styrene Described

The current Government program calls for the annual production of 850,000 long tons of synthetic rubbers: 735,000 tons of GR-S (Buna S); 75,000 tons of GR-I (Butyl); and 40,000 tons of GR-M (Neoprene). In addition, smaller amounts of Buna N, Chemigum, Hycar, Koroseal and Thiokol are being manufactured by private companies. Aside from the chief constituents — butadiene, styrene, isobutylene, isoprene, and chloroprene — many other chemicals are required, and although their proportions are small, the total amounts are great. In the processing of the synthetic rubbers, moreover, still other substances are needed; some of these are the same as those used in processing natural rubber, but in greater proportions; some are quite different. The total amounts of all these "secondary" chemicals reach staggering figures.

**A synthetic "first"... with millions more to come**

#### Inorganic and Organic

These additional chemicals are both inorganic and organic. Large amounts of alum and soda ash, for example, are required to soften the water used in the polymerization process; sodium metaphosphate is used for preventing corrosion in pumps, pipe lines and tanks; chlorine is employed to keep down slime formation in apparatus; anhydrous ammonia and brine are necessary to furnish refrigeration; tons of rock salt and much sulfuric acid are used in solution to precipitate or coagulate the synthetic latex.

Organic stabilizers, little known compounds which prevent the premature polymerization of the butadiene and styrene while in storage, are present in only about two hundredths of one per cent. Yet on the basis of 748,600 tons of butadiene, this small proportion means about 150 tons, or a third of a million pounds. Furthermore, these stabilizing agents must be removed before the material is emulsified, and for this a solution of sodium hydroxide is required.

(*Continued on next page*)

## *Chemistry at War Keynote of Chemical Show*

Highlighting the chemical progress which has been crowded into two years of war, the 19th Exposition of Chemical Industries will concentrate on factual, "show-how" information. It promises a stimulating panorama of recent accomplishments in plant conversion, creation of new products, and high speed transition from test tube to tank car production. Madison Square Garden, New York, Dec. 6 to 11.

**One of the new synthetic rubbers, as it emerges on conveyor from the dryer which removes water collected during coagulation.**

ADVERTISEMENT—*This entire page is a paid advertisement.*

November ★ **U.S.I. CHEMICAL NEWS** ★ 1943

## Synthetic Rubber Chemicals

(*Continued from preceding page*)

The emulsification of the butadiene and styrene requires great quantities of soap, pure sodium stearate. The plants are designed to use soap itself or to make the soap from stearic acid and sodium hydroxide. The polymerization catalyst is added to the emulsified materials, and later a reaction stopper or anti-polymerizing agent is used to arrest the polymerization at the proper stage. (This reaction stopper may be an antioxidant and therefore serve a dual purpose.)

Larger proportions of softeners are generally required in GR-S than in natural rubber. If at least five per cent of a softener is used in every GR-S compound, the total amount would be 36,750 tons or somewhat over 82,000,000 pounds! Softeners must be cheap and the important ones come from coal tar and turpentine products. High-boiling esters such, for example, as dibutyl phthalate, dibutyl sebacate, etc., are in favor in the processing of some of the synthetic rubber compounds.

### Accelerators

Organic accelerators are important in the vulcanization of GR-S compounds, as with natural rubber. There are variations in the effects obtained, but mercaptobenzothiazole is the leader in both cases. Tetramethylthiuram-mono-sulfide and mercaptothiazoline are also useful. The aldehyde-amine type of accelerator, like the butyraldehyde condensation product with aniline, acts best as a secondary accelerator to "boost" the action of those just mentioned. From 1.0 to 1.5 parts are generally used to 100 of the synthetic rubber. On the basis of 735,000 tons of GR-S, one per cent means 7,350 tons of accelerators.

In the manufacture of Butyl rubber, boiling ethylene is used to refrigerate the reaction mixture. The manufacture of Buna-N requires sodium oleate as the emulsifier, salt for the coagulation, and antioxidants for stopping the polymerization. Furthermore, reclaimed rubber is closely connected with the entire program and the amount now being made is almost double the pre-war production. Here caustic soda and oils from the coal and pine tar industries are widely used.

"Research is the price of progress," and surely at this time, with the wonderful cooperation of rubber chemists and engineers in the great synthetic rubber program, we can expect marvelous advances in rubber technology, and the application of many new chemicals to make the synthetic rubber do even more than natural rubber could do.

## Continuous Process Recovers Coating Materials from Water

DETROIT, Mich. — A method for recovering and reconditioning the excess sprayed coating material picked up by spray-booth water has been patented by two inventors here.

The water-contaminated solids are dissolved in a solvent having a lower boiling point than water, and of the same kind as that normally used in applying the coating material. The mixture is then distilled under vacuum, at a temperature below the boiling point of water. The distillate is condensed, and the solvent returned to the solution of coating material solids. Portions of the solution of water-free coating materials are periodically removed, and water-contaminated solids are added, without interrupting the process.

## *Industry Increases Use of Special Liquid Curbay*

Widely used as an extender for molasses in dairy and hog feeds, U.S.I.'s Special Liquid Curbay is finding increasing industrial use as a binder — in foundry core and molding sands, in briquetting, in thickening agents, in impregnating paper. Available in tank-car quantities without allocation limitations, it is handled just like molasses in storage or mixing equipment.

## New Glass Cleaner Patented

A patent has been granted for a glass cleaner consisting of an aqueous solution of 20 to 50% methyl, ethyl, or propyl alcohol in which 0.02 to 0.2% tetra sodium (or potassium) pyrophosphate is added to prevent haze formation.

## *Produces Lower Alkyl Ethers of Methylolurea*

Announcement is made of a patent covering the treatment of dimethylolurea with methyl, ethyl, propyl, or butyl alcohol. The reaction is carried out at a pH of at least 9.0 until an ether of a methylolurea is formed, and then terminated prior to resinification. Termination of the reaction is effected by removal of the ether from the alkaline solution, as by chilling.

## TECHNICAL DEVELOPMENTS

*Further information on these items may be obtained by writing to U.S.I.*

**Electrically-conductive rubber,** originally developed for de-icing aircraft propellers, is finding use in explosives manufacture to eliminate the hazard of static electricity and replace former non-ferrous metals subject to corrosion. Resistance of the new rubber is said to run as low as 5,000 to 10,000 ohms per centimeter cube. **(No. 749)**

U S I

**A new paint vehicle,** combining drying, high thinner tolerance and compatibility with most resins is announced. The product is said to possess all the best qualities of linseed oil, plus some desirable new properties, and to allow greater production on limited oil quotas. **(No. 750)**

U S I

**A synthetic filter cloth,** which the maker reports to be highly resistant to both strong acids and alkalis, is facilitating many continuous filtering operations in the synthetic rubber, explosives, and petroleum industries. **(No. 751)**

U S I

**A substitute for morphine,** which has been under chemical tests for three years, is now being made generally available to the medical profession. **(No. 752)**

U S I

**Resiliency measurements,** important to manufacturers and consumers of rubber and other extensible materials, is facilitated by a new instrument which measures the rebound of a weighted plunger dropped from a predetermined height. **(No. 753)**

U S I

**A new insulating glass,** suitable for ovens and furnaces as well as for towers, tanks, etc., is announced. Of low heat conductivity due to its cellular structure, the glass is said to be fire and vapor-proof and impervious to moisture. **(No. 754)**

U S I

**Sealing the seams** of bolted tanks used to store gasoline and other fuels is possible with a new synthetic rubber compound which comes in strip form. The strip is claimed to be so flexible it can be wound, at minus 70°F., on a 1/2-in. rod without cracking. **(No. 755)**

U S I

**A new spray-degreasing booth,** reported by the manufacturer to hold losses of war-scarce solvents to new low figures, is announced. **(No. 756)**

U S I

**Pecan shell oil** is now being offered for sale in large quantities. Said to be the equal of olive oil for table use, it is also useful in the making of dyes and high-grade soaps. **(No. 757)**

U S I

**A new adhesive** said to be both thermoplastic and thermo-setting is reported in use in the production of plywood for military helicopters. The new material is stated to set in 20 minutes, as a permanently tough, heat-resistant, insoluble bond which will withstand three hours of boiling in water. **(No. 758)**


**U.S.I INDUSTRIAL CHEMICALS, INC.**

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CHEMICALS · SOLVENTS · RESINS · ALCOHOLS · ANTI-FREEZE · USI SERVICE TO INDUSTRY

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Amyl Alcohol
Butanol (Normal Butyl Alcohol)
Fusel Oil—Refined
**Ethanol (Ethyl Alcohol)**
Specially Denatured—all regular and anhydrous formulas
Completely Denatured—all regular and anhydrous formulas
Pure—190 proof, C.P. 96%
Absolute
*Super Pyro Anti-freeze
*Solox Proprietary Solvent

**ANSOLS**
Ansol M
Ansol Pk

**ACETIC ESTERS**
Amyl Acetate
Butyl Acetate
Ethyl Acetate

**OXALIC ESTERS**
Dibutyl Oxalate
Diethyl Oxalate

**PHTHALIC ESTERS**
Dimethyl Phthalate
Dibutyl Phthalate
Diethyl Phthalate

**OTHER ESTERS**
*Diatol
Diethyl Carbonate
Ethyl Chloroformate
Ethyl Formate

**INTERMEDIATES**
Acetoacetanilide
Acetoacet-ortho-anisidide
Acetoacet-ortho-chloranilide
Acetoacet-ortho-toluidide
Acetoacet-para-chloranilide
Ethyl Acetoacetate
Ethyl Benzoylacetate
Ethyl Sodium Oxalacetate

**ETHERS**
Ethyl Ether
Ethyl Ether Absolute—A.C.S.

**RESINS**
Natural
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**ACETONE**
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**FEED CONCENTRATES**
Curbay B-G
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Vacatone 40

**OTHER PRODUCTS**
Collodions
Ethylene
Ethylene Glycol
Indalone
Nitrocellulose Solutions
Urethan

*Registered Trade Mark

## The Cosmetic Trend

Post-war planning begins to enter, shyly, into the conversations between buyers and manufacturers' salesmen. Wisely the cosmetic industry has abstained from promising its customers a new world, once the war has ended. However, older buyers remember the growth of the American cosmetic industry after the first world war and they, naturally, wonder whether any similar development can be expected following the present.

Most salesmen appear to put the damper on excessive predictions. The cosmetic industry has covered practically every nook and corner of its market. No new developments are heralded from abroad although it is confidently expected that the old line, big name French perfumes will resume their former place, despite much new domestic competition.

Of course, there is the ever present possibility of the cosmetic industry spreading into new fields. Prominently mentioned in this respect are outdoor protective cosmetics and household necessities which might be given a cosmetic slant. Both fields of expansion would need a very thorough study, though, and their adoption into cosmetics line is by no means assured.

That outdoor cosmetics can stand improvement and might be better adapted to their respective uses, there seems very little doubt. Experiments with insect repelling camouflage make-up and similar protective sanitary preparations during tropical war-fare may lead the way to a complete revamping of all summer cosmetic lines. Similar adjustments will be welcomed for several groups of winter protectives.

As to an eventual adaptation of existing cosmetic lines to the needs of home-workers, or a raise of the social scale of established household preparations to the level of a cosmetic, the field is still wide open for all. There is no reason whatever why cleaning fluids, waxes, polishes should have their own disagreeable smells, if they might just as well help to scent the home pleasantly.

The point, that buyers make, is that they are less interested in what the cosmetic industry will do in post-war days than in how it is done. Nothing is gained by duplicating existing items and lines, even if the duplication should mean an improvement or entry into a new market with a new sales argument. The only test of post-war practicability, as buyers see it, will be whether the article in question will add to volume. It should not simply replace articles in which the buyer has a long-term investment of educational work.

The deduction from this is that salesmen may find buyers more conservative in their response to a mere novelty appeal than might have been foreseen. Just now it looks as if only the real novelty will stand the chance for acceptance. However, all this is not final. Even hard boiled buyers have the right to change their minds.

customers can be satisfied because otherwise no merchandise would be available to them because of shortages. It is a fact of course, that any size, any price perfume can be sold today as a unit, but it is just a question of stopping to think whether it is better to please one customer than to please perhaps thirty-two of them.

Up to this point, stores dispensing by the dram have been furnishing the empty bottles. The question has come up whether it might be a good idea to let customers bring in their original bottles to be refilled. One buyer advances the thought that this is not a good idea because bottles brought in may have been washed with water or alcohol which would tend to dilute the perfume bought by the dram, and that until such time as no bottles are available, this method should not be used. Another buyer feels that eventually it may be necessary to ask the customer to bring her own bottle, but it seems that it would have to be the original bottle and it would only be filled with the same fragrance. In that event, since the bottle would ordinarily be much larger than a dram, the customer would be expected to buy more.

There are many pros and cons about both dram sales and the question of bottles. It all seems to boil down to the fact that dram sales are good and profitable to both manufacturer and store. The question of bottles for the time being will have to be left to the discretion of the retailer, since dram bottles are still available and seem preferable to reused originals.

It is interesting to note that in spite of the fact that bulk perfume sales were not looked upon kindly by de luxe perfume manufacturers before the war, Caron perfumes are now only sold in bulk.

### It Really Should

We have a picture of a molded kit being marketed by Plastic Die & Tool Co., Los Angeles for use by members of the armed forces. It measures 4" by 6½", weighs under 1¼ lbs., and contains the following. A checker board and checkermen, a cribbage board with pins, each notched to hold checkers and pins in place; a steel mirror, saddle soap, tooth paste, tooth brush, styptic pencil, buttons, pins, a file, razor blades, sewing supplies, a pencil, playing cards, soap, a pipe cleaner and a pair of dice.

All we can think of is the old story which ends with this punch line. "Somewhere, it should come out music."

### Glass Containers

The latest estimate of glass container production for 1943 places the figures at over 93,000,000 gross, a new high record and an increase of 17½ per cent over last year. However, the War Food Administration takes about 70 per cent of this production and according to R. A. Palen of that administration will probably want even more than that for food next year.

### Drug Store Sales

Drug store sales are currently running 25 per cent ahead of last year, according to Nelson A. Miller of the Department of Commerce, and at the present rate will show a gain of more than 80 per cent of 1939. He also estimates that dollar sales by wholesalers have run about 18 per cent ahead of 1942 and he says that if this increase continues throughout the year wholesale drug volume will total about $1,500,000,000, or 92 per cent ahead of the 1939 figure. He also points out that the trend among manufacturers to sell more and more retail accounts direct has been reversed by wartime conditions and that the retailer is now buying much more of his supplies from the wholesaler.

# METHOCEL

## DOW METHYL CELLULOSE
## PHARMACEUTICAL GRADE

**Methocel, Pharmaceutical Grade, is a synthetic cellulose ether produced under rigid chemical control and is of uniform quality. It is recommended as a highly efficient thickening, binding, dispersing and emulsifying agent for pharmaceutical and cosmetic preparations. Solutions are clear, colorless, odorless, neutral, inert and resistant to fermentation. Dow Methyl Cellulose (Methocel), Pharmaceutical Grade, is produced in six viscosity types to meet a wide range of requirements.**

● **Methocel, Pharmaceutical Grade, has many advantages over the natural gums which it replaces. As a synthetic chemical its quality and uniformity are not subject to the vagaries of nature. There is also greater stability in market conditions—an assurance of an adequate supply within an economical price range.**

THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN

New York City, St. Louis, Chicago, Houston, San Francisco, Los Angeles, Seattle

# PHARMACEUTICALS

DOW

CHEMICALS INDISPENSABLE TO INDUSTRY AND VICTORY

### Add Post-War

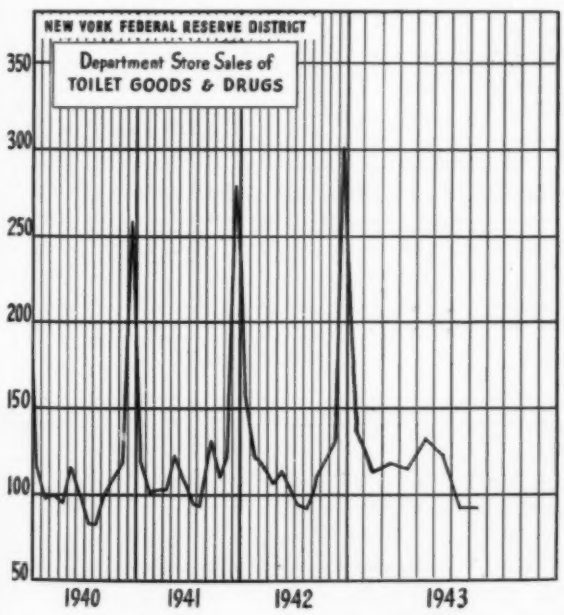
One obvious thing which may be overlooked in making plans for post-war lines is the fact that shipping and transportation will be so different in the air age which will follow. As the chairman of the Civil Aeronautics Board has pointed out a shipment which in the old days might have gone by rail to a coastal shipping point, there to be transshipped by sea to a port in China and once again transshipped by rail to a point inland, may under aircraft operational procedure be flown directly from point to point in a small fraction of the time. Similarly the salesman of the future may take a trans-Atlantic plane and spend a week calling on the trade in Europe with as much ease and with no more elapsed time than it used to take him to get into his car and canvass a comparatively small market area in this country.

Although we recognize the possibility of these things, we may forget the obvious corrolary, i.e., that shipment by air will have a tremendous influence upon packaging. For one thing, the reduced handling made possible by air transport may reduce the need for layer upon layer of protective packaging to insure the safe arrival of merchandise. This, in itself will reduce shipping weight and space, but it is only the beginning. Those who are designing post-war packages will want to study all available materials with respect to weight and then shape their packages with space-saving requirements in mind. Post-war packaging will be air-age packaging and at the beginning, at least, weight and space are going to be extremely important.

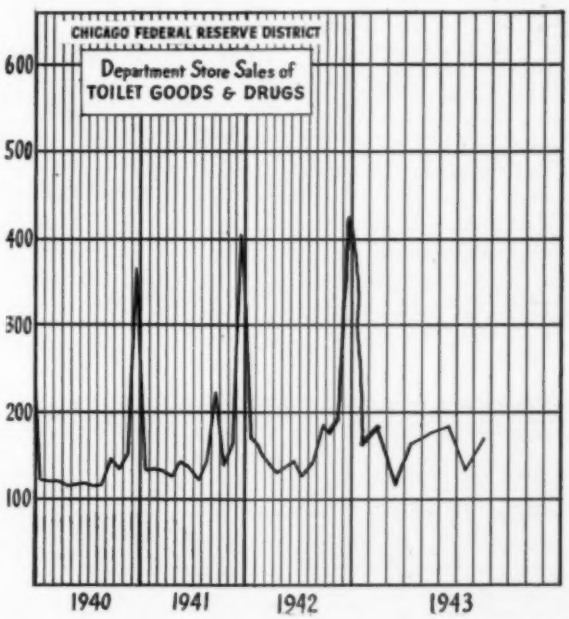
### Paperboard Shortage

According to A. B. Huyssoon, chief of the paperboard section of WPB, everything points to a continued shortage of paperboard for the duration of the war. He points out that "V" boxes take 750,000 tons annually, bomb rings about 30,000 tons, and ammunition cases about 200,000 tons annually. He says that an accurate estimate of the board consumed by conversion from tin cans is impossible but that the figure is undoubtedly high, and that fibre drums consume about 25,000 tons annually and fibre cans about 20,000 tons. When these figures are added to increased demand for food, drug and other boxes for civilian requirements, it is immediately evident that the demand for paperboard is unprecedented and, according to Mr. Huyssoon, one which cannot be met by the paperboard industry at the present rate of production.

Lack of manpower to cut pulpwood is the primary cause for the shortage he says, while lack of waste fibre is also causing a loss of production. Last July the industry held the largest inventory of waste paper in its history but this supply has been reduced to a point which means curtailed operations. The average collection of waste paper runs about 27 per cent. When the heat was on in last year's salvage drive the collection reached 35 per cent. Today's productive capacity calls for a waste paper collection of about 43 per cent of all the paper and paperboard produced this year.




Sales of toilet articles and drug sundries by department stores in the New York Federal Reserve District increased in August 1943 as compared with July 1942. This corresponds to unadjusted index numbers of 92.9 for August 1943; 93.7 for July 1943; and 86.9 for August 1942.




Sales of toilet articles and drug sundries by department stores in the Chicago Federal Reserve District were again greater in August 1943 than in the same month of 1942. This corresponds to unadjusted index numbers of 169.1 for August 1943; 131.9 for July 1943; and 141.4 for August 1942.

# Infantryman Fred Foerster is rehearsing for the Big Push!

Fred Foerster used to be one of our skilled bottle machine operators. Now he's Private Fred Foerster of the infantry, on maneuvers somewhere in Tennessee.

Someday soon, it will no longer be maneuvers—it will be the real thing. And we know that Fred will be in there pitching—doing a good job for a great cause.

We're looking forward to the time when it's all over over there; and our Swindell service men will be back on the peace-time jobs which are waiting for them here. Then we'll be able to give you again that good, old-time Swindell Service.

In the meantime, we're trying hard to give every customer the best possible service under existing conditions.

When you think of bottles think of

Swindell

### American Perfumes

Shulton makes news this month with the announcement of the presentation of four perfumes by Leigh. The accent is placed on the fact that these are American perfumes. Each fragrance comes in one size only, one ounce to retail for $3.50. Actually, this price hits an almost non-competitive market in the perfume field — non-competitive in the cost per ounce sense—because it undoubtedly will give perfumes like Coty and Bourjois direct competition. In other words, Shulton plans to market a high quality American perfume at an "American" price. Shulton feels it can help to establish a phenomenal new "American era" in fine perfume.

The four scents are described as "Risque," a new unusual note in fragrance, provocative, yet containing an emotional depth; "Heartbeat," an intoxicating scent for exciting moments; "Dulcinea," a light yet insistent perfume for the lady who likes to surround herself in an aura of femininity; "Poetic Dream," a bouquet of loveliness. Each of these perfumes comes in a clear glass bottle with a penny stopper encrusted with the Leigh crest. The packages express the subtle mood of each scent.

It is interesting to note that Shulton's Early American Old Spice retails for ¼ ounce $2.50, ¾ ounce $4.00, and 1½ ounce $7.50. There is also a gift dram package which sells for $1.25. Friendship's Garden comes in only one size, 3/8 ounce at $3.50.

What Shulton is endeavoring to do is to put perfume on a basis of every day grooming instead of special occasions, and to that end the Leigh perfumes were designed to combine quality with a price within the reach of the middle classes.

It will be launched by Lord & Taylor late in November or the first of December with window and interior displays.

### Population Shifts

Probably the greatest migration from farm to factory in the history of the country took place between 1940 and 1943 according to a census study of 137 American cities made by the Bureau of Census. In the three years the population of Mobile rose 53 per cent; Norfolk, Portsmouth and Newport News, 42 per cent; San Diego, 37 per cent; Wichita, 32 per cent; Corpus Christi, 31 per cent; San Antonio, 30 per cent; Washington, 28 per cent.

Numerically, Washington led the rise with 261,715 while New York led the decline with 436,028. San Francisco increased by 254,000; Los Angeles by 191,000; Detroit by 180,000; Norfolk by 135,000; Baltimore by 119,000; San Diego by 103,000; and Seattle by 102,000. Scranton's population fell off by 126,000 and Boston by 105,000.

### Re-Use Containers

It has been some time since the double duty container has been in the limelight, but along come Luxabath bath crystals in a container, the secondary use of which is stressed as being just as important as the original package. The crystals are packaged in an attractive, heat resistant, raffia wrapped and cork-insulated decanter. This decanter which may be used to prepare as well as serve coffee, is novel in the cosmetic field.

Revlon's Christmas line also includes a re-use container in the form of a blue box with padded white satin cover, beautifully printed in a floral design. The merchandise tray which holds an array of nail enamel, adheron, miniature nail enamel, large lipstick, face powder, oily remover, cuticle remover, cuticle oil, orangewood stick and emeries, lifts out and the box is suggested for gloves, handkerchiefs, stockings, letters, etc.

### Fibre Shipping Containers

That fairly innocent looking order placing the 65 per cent restriction on the use of fibre shipping containers may easily prove just as effective as a sales limitation order in a great many cases. For if you can't get the stuff to the consumer you can't complete the sale even though you've struggled through all the shortages up to the point where you have a finished package ready to ship. But since you can only use up to 65 per cent of the shipping containers you used in a corresponding period in 1942, apparently you're going to be able to ship 65 per cent of what you shipped in '42. Unless, of course, you can cram more into the containers, find something else to ship in, make some provision for salvaging the cartons and re-using them, or all three. And don't think you can go back to wood.

KOLMAR LABORATORIES

- Rouge
- Powder
- Lipstick
- etc.

KOLMAR continues to be a synonym for quality — a reflection of our unswerving devotion to an ideal.

Milwaukee · Newark

**Manufacturers of private label brands only**

*Representatives*

Mr. M. C. Boyd,
Quinby Building, Newark, N. J.

Mr. Douglas Haggerty,
122 E. 42nd St., New York City

Mr. Warren Curry,
2504 Alton Road, N. W., Atlanta, Ga.

Mr. Norman Kole,
980 Merchandise Mart, Chicago, Ill.

Mr. R. F. G. Byington,
1260 N. Western Ave., Los Angeles, Cal.

Mr. Richard F. Spicker,
419 West Fifth St., Cincinnati, Ohio

# NEWS

## Companies

### Vick Elects Four Directors

Four new members of the board of directors of Vick Chemical Co. were elected at the annual meeting of stockholders in Wilmington, Del., October 19. They are: Robert M. Dunning, vice-president and export manager; E. L. Mabry, assistant to the president; Hermon A. High, sales manager; and Thurston W. Merrell, president of the Wm. S. Merrell Co. of Cincinnati.

THURSTON W. MERRELL

E. L. MABRY

ROBERT M. DUNNING

HERMON A. HIGH

Mr. Dunning, a graduate of Harvard University, joined Vick in 1926, and was a member of its export department until 1940 when he was named vice-president and export manager.

Mr. Mabry has been with Vick since 1916 and served for many years in the sales department. More recently he has worked on the investigation and acquisition of new companies as executive assistant to president W. Y. Preyer. Companies for which he arranged the purchase include The Wm. S. Merrell Co., Vitamins Plus (now the Vitamins Plus Division of Vick Chemical Co.), Prince Matchabelli, Inc. and the Alfred D. McKelvy Co. Since their purchase he has been engaged in coordinating and directing their operation.

Mr. High, a graduate of the University of North Carolina, entered Vick through its advertising department in 1929. He later shifted to the sales department and has been successively Canadian manager, trade relations manager, northern sales manager and, since 1940, general sales manager

Mr. Merrell has been president of the Wm. S. Merrell Co. for a number of years and will continue in that capacity with offices in Cincinnati. The Merrell Co. is said to be the oldest ethical drug house in the country, having been founded in 1828, and its products are promoted solely to the medical and dental professions through its representatives and through advertising limited to professional and drug channels.

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### Dr. Nichols Joins Vitamins, Inc.

S. S. Kovacs, president of Vitamins Inc., Chicago, has announced that Dr. J. J. Nichols has been appointed executive director of the company with offices in New York.

Dr. Nichols was born in Coatesville, Pa., in 1888, and after attending the Philadelphia College of Pharmacy, he became associated with the H. K. Mulford Laboratories. Later he joined the Research Institute, manufacturer of arsphenamine. In 1922 he was buyer of drugs for Strawbridge and Clothier, Philadelphia department store.

In 1929 he was selected to organize the Iodine Educational Bureau. He remained with that organization until 1942 and in addition in 1934 he was appointed vice-president of the Chilean Nitrate Sales Corporation in charge of iodine sales.

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### Merck Again Wins Award

For the sixth successive year, the board of judges of the Direct Mail Advertising Association has selected Merck & Co., Inc., Rahway, N. J., as one of the fifty direct mail leaders of the United States and Canada. Douglas Wakefield Coutlee, director of advertising, received the award at the association's annual meeting held at the Roosevelt Hotel, New York, October 15.

The award was made on the basis of outstanding direct mail literature employed in the promotion of a number of products, including vitamins and other chemicals which are important in the war effort and public health program. The Merck Report, a magazine for physicians and pharmacists, and edited by Mr. Coutlee, was also included in the winning presentation.

### Rene Forster Co.

René Forster, formerly vice-president of Bayonne Co., Inc., has announced that he will carry on, under the name, René Forster Co., the business formerly conducted by the Bayonne Co., Inc.

RENÉ FORSTER

The company's offices are at 404 Fourth Ave., New York 16. The telephone number is Murray Hill 5-0250.

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### Bourjois Gets Health Insurance

Paul Douglas, vice-president of Bourjois, Inc., has announced that the company has enrolled its entire staff in the medical and surgical care plan of Group Health Cooperative, a non-profit health insurance corporation which provides protection to employee, union, fraternal and cooperative groups in southern New York State.

According to arrangements made with the cooperative, the entire cost of this insurance for each employee is being assumed by Bourjois, and premiums for employee's dependents will be paid through payroll deduction. This will entitle all those covered to surgical and maternity care in the hospital, the doctor's office or the home, and medical care in cases requiring hospitalization.

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### Rowe on Latin American Trip

Frederic I. Rowe, manager of the export division of Shulton, Inc., left October 8 to make a market survey of Latin America. During his trip he will visit Mexico, Colombia, Venezuela and Cuba. He will return to New York the first of January. Mr. Rowe, a graduate of Rutgers' School of Pharmacy, spent twenty years in the export pharmaceutical and toiletries business with the Sydney Ross Co., during which time he traveled extensively through the West Indies. He was also manager of its branch in Peru for four years in charge of sales and production. Mr. Rowe was with the Latin-American advertising and Far Eastern departments, until the company was purchased by Sterling Drug, Inc. For two years he was managing editor of El Farmaceutico, a McGraw-Hill Spanish journal for the drug and toiletries field throughout Latin America. He joined Shulton in September as export manager. Mr. Rowe will take charge of development of foreign business, which is part of Shulton's post-war program.

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### Abbott Gets Second Star

The second renewal of the Army-Navy Production Award has been granted to Abbott Laboratories, North Chicago, Ill., and New York City. Announcement that the second star, in recognition of the maintenance for another six months of the production standards which brought the original award and its renewal, was contained in a letter to S. DeWitt Clough, president of Abbott Laboratories, from Admiral G. C. Bloch, chairman of the Navy Board for Production Awards. By special request of the Navy Department, no ceremony was held to mark the winning of this flag because of the vital necessity of utilizing full working time for the production of medical supplies for the Army and Navy and essential services.

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### Curtis Named Monsanto V. P.

Francis J. Curtis has been elected a vice-president of Monsanto Chemical Co., St. Louis, it has been announced by Charles Belknap, president. In his new capacity Mr. Curtis will be in charge of Monsanto's long range program of development here and abroad, including general research and general sales development.

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### Lehn & Fink Advance Parish

Donald A. Parish, in charge of district sales for the past seven years, has been appointed sales manager of Lehn & Fink (Canada), Ltd., Toronto. Gordon W. Broad, formerly district sales manager, Montreal, has been named sales manager of Dorothy Gray (Canada).

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### Ungerer Price List

A new wholesale price list has just been issued by Ungerer & Co., New York. A foreword by F. H. Ungerer, president of the company, points out that this year is the fiftieth anniversary of the company which was founded in 1893 by W. P. Ungerer. Copies of the price list are available upon request.

### Rohan Joins Murray Breese

Lieut. Col. Jack J. Rohan, formerly chief of the public relations branch, Second Service Command, and a member of the staff of Major General Thomas A. Terry joined the advertising

LT. COL. JACK J. ROHAN

firm of Murray Breese Associates, New York, as director of public relations, upon his retirement from the Army November 7, 1943. Col. Rohan reached the retirement age for lieutenant colonels September 11.

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### J. & J. Foundation Grant

A special grant has been made to Northwestern University, Chicago, by Johnson & Johnson Research Foundation, New Brunswick, N. J, to establish a scholarship fund and underwrite a new educational program in hospital administration at the university

This educational program, leading to the newly established degree of bachelor of science in hospital administration and master of hospital administration, will be carried out under the direction of Dr. Malcolm T. MacEachern, asssociate director of the American College of Surgeons. The new course will be open to graduates of medical schools, nursing schools, schools of pharmacy, other professional schools and graduates in liberal arts and business administration. Undergraduates of acceptable standing will be admitted as special students for the degree of bachelor of science in hospital administration.

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### Miss Hiehle Joins Haviland

Mildred Barnett Hiehle has been appointed sales promotional director for Ann Haviland, New York. Mrs. Hiehle was formerly toilet goods buyer for Raleigh Haberdasher, Washington, D.C. and has more recently been connected with the Waldorf-Astoria Pharmacy, New York.

(Continued on page 22, column 6)
(Continued on page 5, column 2)
Army Releases Rare Penicillin To Save Life of Queens Girl, 2
The Army, which controls the nation's small supply of penicillin, a new drug working wonders in curing wounded and ailing soldiers, released some of the precious powder Wednesday in an effort to save the life of a civilian—two-year-old [redacted], of [redacted] ty-fourth Avenue
after an appeal was made to the Army surgeon general.
On Monday [redacted], a victim of septicemia bacteria, was taken, unconscious, to [redacted] Hospital, [redacted] Avenue. There doctors sought to save her life with sulfa drugs, but the bacteria con
gain and on

# Back of the headline is *measured purity*

Front page news today is the new, rare drug Penicillin!

This powerful germ-killer is saving lives on the home front and clearing up infections in war wounds on the battle fronts.

Back of the news headlines is the research work of leading pharmaceutical houses. Their laboratories have produced Penicillin exclusively for the armed forces with minute quantities being released, in rare instances, for civilian use.

And back of the news headline is yet another factor—*the fine chemical*. For Penicillin, like many other modern-day drugs, depends upon fine chemicals of exacting purity for its production.

And the purity of the fine chemical assures the quality and the efficacy of the product.

At Baker, for Penicillin or any other drug product, it is always *measured purity*—measured to exacting standards.

Leading pharmaceutical houses rely upon Baker. They know that Baker's purity by the ton in fine chemicals is the result of unique control methods and ceaseless testing. They know that, at Baker, "there is no compromise with quality."

Baker's

**J. T. Baker Chemical Co., *Executive Offices and Plant:* Phillipsburg, N. J.**
***Branch Offices:* New York, Philadelphia and Chicago.**

***For Victory Buy United States War Savings Bonds and Stamps***

# Baker's fine chemicals

## FOR PERFUMES, COLOGNES, CREAMS, POWDERS

Gardenia Supreme, a true recreation of the Gardenia flower—in four different oils for your perfumes, colognes, creams and powders. Once you try Gardenia Supreme, we are sure you will agree that it is the most interesting and accurate reproduction you have yet seen. It is exceptionally flowery and retains this quality over an unusually long period of time. Order a trial pound and experiment with your own products.

Gardenia Supreme No. 1—For Perfume • Gardenia Supreme No. 2—For Cologne
Gardenia Supreme No. 3—For Cream • Gardenia Supreme No. 4—For Powder

**AROMATIC PRODUCTS, INC.**
**18 East 30th Street, New York 16, N. Y.**
Atlanta, Chicago, Dallas, Memphis, Pittsburgh, San Francisco, Los Angeles

# As white and bright as ever!

JUST LIKE PAINTING A HOUSE, *Coated* Lithwite, with its surface mineral coating, gives you just the white you want.

**Despite the shortage of critical wood pulps which necessitate the use of pulps of darker and poorer quality, you can still get folding cartons as white and bright as ever with *Coated* Lithwite**

AS YOU KNOW, many high-grade paperboards *have* been affected by war conditions. But not *Coated* Lithwite. Its original whiteness and brightness, its brilliant printability, its unusual folding and sealing qualities have been maintained. And the reason: *the surface coating of this revolutionary paperboard is compounded of noncritical materials!*

All of this should be particularly good news to carton buyers. For this genuine *mineral*-coated paperboard enables you to give your packages the advantage of better appearance and, fortunately for you—because there have been fewer problems in the production of *Coated* Lithwite than in some other high-grade paperboards—limited quantities of it are available.

Write. We will send you printed samples so you can compare the striking qualities of *Coated* Lithwite with your present cartons. Better still. Send along detailed specifications and a sample of your present carton and we will submit a quotation so you can also make a down-to-the-penny cost comparison with the cartons you are now using.

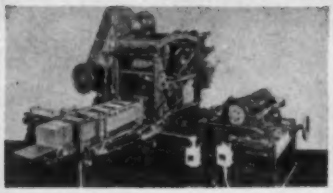
**FINER PRINTING.** *Coated* Lithwite's surface is so uniform and hard, so free from "chalkiness," that inks stand up brilliantly, halftones and type print crisply—without fill-up.

**BETTER PERFORMANCE.** *Coated* Lithwite bends, scores and folds without shattering. Takes a tight seal—and is not temperamental about the type of glue used.

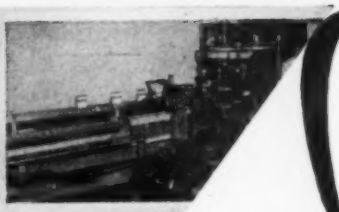
## The GARDNER-RICHARDSON Co.

**Manufacturers of Folding Cartons and Boxboard • MIDDLETOWN, OHIO**

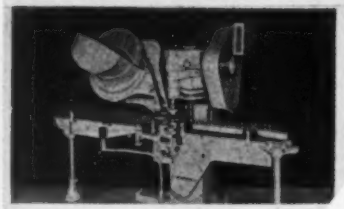
Sales Representatives in Principal Cities: PHILADELPHIA • CLEVELAND • CHICAGO • ST. LOUIS • NEW YORK • BOSTON • PITTSBURGH • DETROIT



Tight Wrapper—Glues entire inside surface of wrapper to insure strong, silt-proof, insect-proof package. Other machines for handling waxed-one-side wrappers.



Carton Feeder and Bottle
then a dozen differe
tucking the bottoms



Single Head Capper—one of several differ
models designed to handle even the most de
caps without breakage or scratching.

Hi-Speed Duplex
eral other mo
boxes and jar

*In back of Pneumatic's slogan . . .*

## LOWER COST PER CONTAINER"

More than eighty major packaging and bottling machines back up Pneumatic's continued assertion of "lower cost per container." Take the leading manufacturers of packaged goods in the food field for example. There, a wide variety of Pneumatic equipment is daily delivering packaged foods with speed, smoothness, and dependability.

Today, in designing and building machines for producing ordnance, Pneumatic engineers have discovered important new facts about design and method. This means that after the war Pneumatic Packaging and Bottling Machines will be even better equipped to lower the cost per container.

As in peace times, we continue to advise with authority on adapting packaging equipment to your particular needs—engineering the machine and suiting it to the product in question.

We are now under the pressure of delivering essential war goods. Nevertheless, we have made provision in our production schedule to continue to give your orders for essential new equipment and parts the prompt and careful attention they deserve.

Pneumatic Scale Corporation, Ltd., 70 Newport Avenue, North Quincy, Mass. Branch Offices: New York, Chicago, San Francisco, Los Angeles.

**PNEUMATIC**

**PACKAGING & BOTTLING MACHINERY**

### W. F. Zimmerman, Inc., Formed

W. F. Zimmerman has established his new company, W. F. Zimmerman, Inc., manufacturers of private label cosmetics at 404 Fourth Ave., New York.

W. F. ZIMMERMAN

Purchase at this address of a modern, fully equipped laboratory with large floor space gives the new company, which Mr. Zimmerman heads as president, ample facilities for expansion.

E. FOUGERA

Associated with the company as consulting chemist is E. M. Fougera, well known for many years through his connections with the industry, and recently as head of Emfo, Inc., a private label manufacturing company at the same address.

There will be no change in the status of Emfo, Inc. Mr. Fougera will act both as head of this company and as associated chemist of W. F. Zimmerman, Inc.

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### Katz Heads Florasynth

With the retirement from the organization of Louis A. Rosett, new Officers have been elected to head Florasynth Laboratories, Inc.

Alexander Katz, organizer and chief chemist, and former vice-president, assumes the presidency of the company. William Lakritz who has been associate chemist for more than twenty years and who had headed the Chicago office and its central and midwestern activities, has been made vice-president.

Joseph H. Fein, who has been with Florasynth for the past twenty years, has been elected treasurer. He will continue in charge of the company's purchasing department with headquarters at the main offices and plant in New York.

David Lakritz, a member of the chemical staff for many years, becomes chief chemist in charge of production in the New York plant and Leonard Katz continues in charge of production of the company's west coast activities. Charles P. Kramer, who has been general counsel for Florasynth since its inception in 1916, continues as secretary. Charlotte F. Senior continues as assistant secretary and assistant treasurer.

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### J. B. Magnus Conducts Clinics

J. B. Magnus, vice-president of Magnus, Mabee & Reynard, Inc., has been on a six-weeks trip to the west coast for a series of sales meetings with M M & R's west coast representatives, Braun, Knecht, Heimann Co. of San Francisco; Braun Corp. of Los Angeles; Van Waters & Rogers, Inc., of Seattle, Portland and Spokane.

A series of indoctrination sessions were held to acquaint the sales force of these recently appointed representatives with the company's products. Rowland C. Ringgold, assistant to the president, joined Mr. Magnus in conducting the sales clinics.

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### Centaur and Cummer Changes

A further shift in manufacturing operations of the Centaur and Cummer Co. divisions of Sterling Drug, Inc. away from Bedford, Ohio, has been announced by Joseph D. Bohan, divisional vice-president.

The manufacturing operations for Molle have been moved from the Bedford plant to the Centaur Co. plant at Rahway, N. J. In order to make room for these operations, the Centaur offices have been moved from Rahway to 41 East 42 St., New York.

The manufacture of Energine has been transferred from Bedford to Brattleboro, Vt. These moves were made to assure an adequate supply of labor and the Bedford plant is now vacant.

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### Hallett Resigns from Ayer

Mrs. Lillian S. Dodge, president of Harriet Hubbard Ayer, New York, has announced that George W. Hallett is no longer connected with the company.

### Henriksen with Northam Warren

Arthur Henriksen, formerly chief chemist for C. E. Ising Corp., Flushing, N. Y., has been connected with the Northam Warren Corp. since October 11. He is located at the White Plains plant as chief chemist in charge of production of the cosmetic division.

ARTHUR HENRIKSEN

Mr. Henriksen has been associated as perfumer and chemist with Gillette Safety Razor Co., Norda Essential Oil & Chemical Co., the Palmolive Co., J. R. Watkins Co., Bauer & Black, and National Toilet Co. He is a graduate of Columbia College of Pharmacy and of Pratt Institute and served in France with the Medical Corps of the U.S. Army during World War I.

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### Abbott Export Companies

Abbott Laboratories International Co. and Abbott Laboratories Export Corp. have been formed by Abbott Laboratories, North Chicago, Ill., to take care of its export business. New offices in the Palmolive Building, Chicago, have been leased and the entire export department will be located there.

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### Carroll Joins George W. Luft

A. L. Carroll has joined the George W. Luft Co., Long Island City, N. Y., as sales representative for western New York and western Pennsylvania. Mr. Carroll was formerly connected with Plough, Inc., Memphis, Tenn., and prior to that with Jergens-Woodbury.

---

### Leshin Opens Office

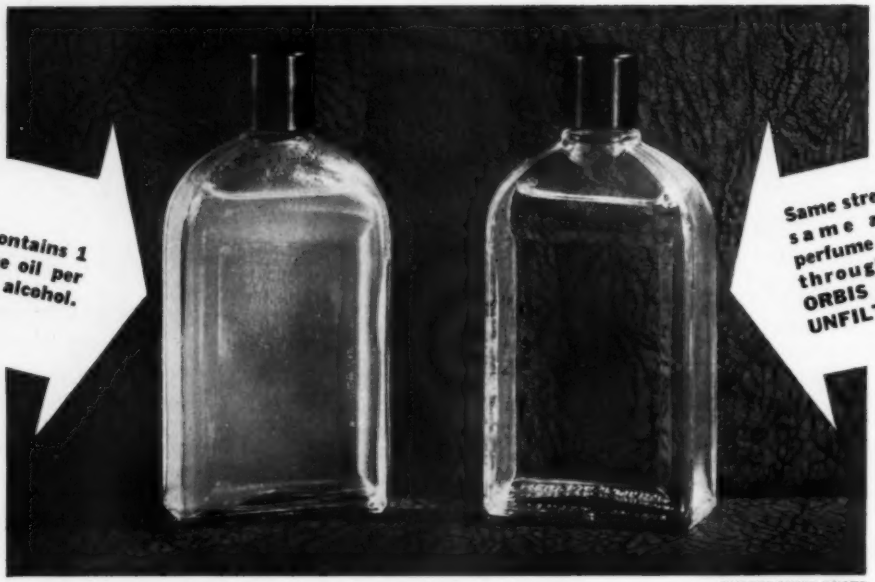
J. Leshin has announced the opening of a new office at 565 Fifth Ave., New York 17. The telephone number is Plaza 8-0328.

# S-T-R-E-T-C-H YOUR ALCOHOL SUPPLY

## 100 TO 200 PER CENT

by cutting the alcoholic content of your colognes, toilet waters, tonics, lotions, deodorants, etc. while still maintaining the same perfume content. This is possible through the adoption of

# ORBIS ALCOH-SOLS


This bottle contains 1 ounce perfume oil per gallon of 25% alcohol.
Same strength alcohol, same amount of perfume introduced through medium of ORBIS ALCOH-SOL. UNFILTERED.

UNRETOUCHED PHOTO

These ORBIS ALCOH-SOLS are perfumes that have been specially treated to make them completely soluble in dilute alcohol, from 5 to 50%. Being free from sulphonates or sulphonated products they will not decompose or react with other ingredients in tonics or lotions.

ALCOH-SOLS are available in all floral odors and many bouquet types. Special odors also available.

Finished products containing ALCOH-SOLS do have a tendency to foam when vigorously shaken. However, many manufacturers of tonics, lotions, deodorants, etc., consider this of little importance.

*Complete information will be sent on request. The services of our Perfume Research Laboratory are at the disposal of manufacturers desiring to reformulate their products to effect alcohol savings. Consult us in complete confidence.*

# ORBIS

## PRODUCTS CORPORATION

215 PEARL STREET, NEW YORK · FACTORY & LABORATORY, NEWARK, N.J.

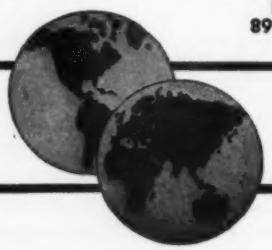
CHICAGO
660 North Dearborn St.

PHILADELPHIA
610 Brown Bldg.

BOSTON
89 Broad Street

MEMPHIS, TENN.
1620 Carr Ave.

| | | | |
|---|---|---|---|
| Water Soluble Gums | Waxes | Cosmetic Raw Material | Fruit Flavors |
| Thymol | Stearic Acid | Oleo Resins | Food Colors |
| Aromatics | Essential Oils | Perfume Bases | Quince Seed |
| Rice Starch | Zinc Oxide French | Olive Oil | Irish Moss |



### Evans Gets More Space

Evans Chemetics, Inc. has l ased 22,000 square feet of space in the Long Island University Building at 300 Pearl st., Brooklyn, N. Y. This will be used by Evans Chemetics, Inc. in addition to its present facilities in the Port Authority Building, New York, and at Waterloo, N. Y. This added space is required in order to meet the requirements made on the company in the production of its chemical specialties.

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### Dinner to Roy Root

One of the most enthusiastic testimonial dinners ever held in this industry took place November 1, at Olney Inn where the members of the Toilet Goods Association convention committee feted Roy Root whom everyone knows through his long association with Scovill Manufacturing Company and through his conspicuously successful record as chairman of the T.G.A. convention committee for many years.

Although no reporters were present at the dinner, word has leaked out that some of the choicest oratory of the season flavored the meal. Karl Voss, as chairman of the dinner committee, made one of his usual brilliant speeches commenting on the difficulty of bringing Roy to the meal without suspicion on his part. Charlie Fischbeck read a glowing report on the record of the committee and on Roy's outstanding ability as a chairman. Milton Martin read a poem commemorating Roy's ability as a golfer. Mike Lemmermeyer, who is reputed to be the originator of the dinner idea, and who is the creator of the portrait presented to Roy, spoke at length on the friendship and fellowship of the committee.

Waiters who were interviewed later said that they were reluctant to leave the room to bring in the food so entertaining were the speeches and so mirthful was the humor of some of the remarks.

The presentation to Mr. Root followed the dinner when the black velvet drape was removed from the portrait which is reproduced here with special permission of the artist, Mr. Lemmermeyer, and Mr. Root.

Present at the dinner were all the members of the T.G.A. convention committee: A. C. Burgund, Carr-Lowrey Glass Co.; Charles Fischbeck, P. R. Dreyer Inc.; P. E. Haebler, Goldschmidt Chemical Corp.; W. E. Klaas, Brass Goods Mfg. Co.; M. Lemmermeyer, Aromatic Products Inc.; M. F. Martin, U. S. Industrial Alcohol Co.; W. P. Murray, Continental Can Co.; Kark Voss Corp.; and J. Blaine Walker, Hazel Atlas Glass Co.

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### Mrs. Weise Joins Murray Breese

Sheila B. Weise has joined the staff of Murray Breese Associates, New York, as head of the market and copy research diyision. Mrs. Weise began her career with a small manufacturing concern and then joined the house agency of a large proprietary drug and cosmetic concern.

After advanced work in marketing and statistics at Columbia University she joined the research staff of Ruthrauff & Ryan, Inc. She remained with this organization for four years, handling all phases of general market research and radio sales analysis and was for a time in charge of the copy testing department.

Prior to joining the Breese organization she was with the research staff of Ted Bates, Inc., handling all sales and radio analysis on the Carter's Little Liver Pills account.

Ronald S. Breese has re-joined the Breese organization after a year of government work in the Far East, principally in Iraq and Iran, where he had unusual opportunity to observe the reactions of the natives and the nationals of the various United Nations to American material.

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### Dr. Grebe Receives Medal

The Chemical Industry Medal of the Society of Chemical Industry was presented November 12 to Dr. John J. Grebe, director, physical research laboratory, Dow Chemical Co., Midland, Mich., at a joint meeting of the American Chemical Society and the New York section of the American Institute of Chemical Engineers.

The award was made at a meeting held at the Hotel Roosevelt, New York, with Dr. Foster Dee Snell presiding.

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### German Drugs Seized

Leo T. Crowley, Alien Property Custodian, has announced the seizure by his agents at San Juan, Puerto Rico, of twenty-five cases of German drugs and pharmaceuticals, estimated to have a value of over $100,000. The products

***ALBERT VERLEY & COMPANY PRESENTS***

# Rosam

***. . A COMPLETELY SATISFACTORY SUBSTITUTE FOR THE NATURAL ROSE ODOR***

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originated in La Quimica Bayer, S. A., of Buenos Aires, Argentina, a wholly-owned subsidiary of I. G. Farbenindustrie, of Germany, and were being shipped to the German subsidiary in Venezuela.

### Peppermint Oil in Texas

Dr. C. C. Albers, associate professor of pharmacognosy at the University of Texas, is experimenting with the cultivation of peppermint for oil. Through the Federal Bureau of Plant Industry Dr. Albers has obtained peppermint of Japanese and Oregon varieties and is experimenting to determine its oil content. Dr. Albers is growing peppermint on one farm near Galveston and believes that the irrigated district of the lower Rio Grande valley is a likely spot for its propagation.

## Associations

### A.P.M.A. Winter Meeting

C. W. Warner, president of the American Pharmaceutical Manufacturers' Association, has announced that the association will hold its midwinter meeting December 13 and 14 at the Waldorf-Astoria in New York.

Included in the program this year will be the report of the eastern production committee which has heretofore been made at the spring meeting. The annual merit award, the report of the research committee, as well as of the contact committee and talks by a few important government speakers will complete the program.

The westerm production committee, the sales and advertising committee as well as the eastern sales and advertising committee will meet as heretofore in February or March.

### DCAT Forum

An industry forum on the subject of cancellation of government contracts and disposal of war surpluses was held October 22 under the auspices of the Drug, Chemical and Allied Trades Section of the New York Board of Trade. The meeting was held at the Waldorf-Astoria, on the Starlight Roof, preceded by a luncheon. Victor E. Williams, Monsanto Chemical Co., chairman of the Section, presided.

E T. T. Williams of Becton, Dickinson & Co., chairman of the Section affairs committee, conducted the discussion and Colonel Paul I. Robinson and Major Walter H. Potter, in charge of cancellations, represented the Surgeon General's office.

### Derr Addresses Missouri Ass'n

E. B. Derr, of the chemical products division of the Aluminum Co. of America, was the guest speaker at the meeting of the Associated Drug & Chemical Industry of Missouri, October 13 in the Coronado Hotel, St. Louis.

### Missouri Golf Winners

The October and final golf tournament of the Associated Drug & Chemical Industries of Missouri, Inc., was held at Bellerive Country Club, St. Louis, October 26. The prize winners were: Franc Barada, Fritzsche Brothers, Inc.; Gene Meyer, United Drug Co.; Jack Berkley and Cy Merrell, Monsanto Chemical Co.; Harry White, James F. Ballard, Inc.; George Erwin, Puro Co., Inc.; Glenn O'Neal, Dow Chemical Co.; and Bob Kieth, Kieth-Victor Pharmacy.

Prizes for the season were won by H. I. Beckenholdt, Commercial Solvents Corp., and Art Kroeger, Monsanto Chemical Co.

### Brooks Heads T.G.A. Post-War

H. L. Brooks has been elected chairman of the post-war planning committee of the Toilet Goods Association. A large number of subjects are on the agenda for discussion by the committee. As the program develops, it is planned to name a number of sub-committees to consider special subjects. Among these subjects may be: general economic trends; disposal of post-war surpluses; new raw materials; packaging; foreign trade; special legal problems, and others.

## People

### Dr. Swain to Get Degree

Combined commencement exercises for the graduates of the Schools of Pharmacy, Dentistry, Law and Chiropody of Temple University were held October 22 in Philadelphia.

Dr. Robert Lee Swain, editor of "Drug Topics" and "Drug Trade News" was to have received the honorary degree of doctor of Laws, but owing to illness was unable to attend. The degree will be given to him at some future time.

### Carey Promoted

Paul Carey, on military leave of absence from Cosmetiques Tussy, New York, has been promoted to Captain in the U. S. Marines. Captain Carey is now somewhere in the Pacific. He joined the Marines last November and received the rank of first lieutenant.

### Lieut. Millard in Virginia

Lieut. (j.g.) Nelson W. Millard, on military leave of absence from Bourjois, Inc., New York, has been transferred from the west coast to the Naval Mine Warfare School in Yorktown, Va.

### Harry Noonan Retires

Harry Noonan, founder and organizer of Drug Products Co., Long Island City, who has retired, was given a farewell party October 16 at the offices of the company. Mr. and Mrs. Noonan left October 30 for Phoenix, Ariz., where they have a permanent home.

George E. Hickey, vice-president, Joseph H. Moss, new president and Harry Noonan, retired president of The Drug Products Co., Inc.

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### d'Escayrac on Furlough

Aspirant Bernard d'Escayrac, on temporary leave of absence as president of Guerlain, Inc., New York, was in New York late in October on furlough, pending his departure for parts unknown. Aspirant d'Escayrac (equivalent to a naval cadet in the United States Navy), was graduated from the French officers training school at Fort Benning, Ga., in June, which was followed by a second course, the nature of which is a military secret.

### Dilworth Advanced to Major

John R. Dilworth, formerly of Anchor Hocking Glass Corp., who was commissioned in the U. S. Army Air Force in July, 1942, has been advanced to the rank of major. Major Dilworth, who has been in the European theatre for a year, is believed to be in Sicily or Italy. To his friends who wish to drop him a line, letters should be addressed as follows: Major John R. Dilworth, 0913177, Headquarters Twelfth Air Force, Army Postmaster, New York, N. Y.

### Fred Theile Recuperating

F. C. Theile, president of P. R. Dreyer Inc., New York, is now recuperating at his home from an illness which kept him in the hospital for nine weeks.

### Lieutenant Teeter Advanced

Second Lieutenant John O. Teeter, M.A.C., assistant adjutant, Army Medical Purchasing Office, New York, was promoted to First Lieutenant October 29. When Lieutenant Teeter enlisted about a year and a half ago he was in the employ of Chas. Pfizer & Co., Inc., New York.

### Honorary Degree to Dr. Klumpp

The Philadelphia College of Pharmacy and Science conferred the honorary degree of doctor of science on Theodore G. Klumpp, M.D., president of Winthrop Chemical Co., at the school's commencement exercises held at Philadelphia, November 3.

In an address, "Your World of Tomorrow," Dr. Klumpp pointed out dangers in extending federal control over science. He said that his opinion was that "the Wagner-Murray-Dingell Bill would place in the hands of a single political appointee the power and authority: (1) To hire doctors—possibly all doctors—at fixed salaries to provide medical service. (2) To designate which doctors can be specialists. (3) To determine the number of individuals for whom a physician can provide service. (4) To determine arbitrarily what hospitals or clinics may provide services for patients."

Dr. Kumpp predicted that because pharmacy and medicine are so closely related, enactment of the bill would result in regimentation of both sciences.

## Financial

### Squibb Stock Offering

E. R. Squibb & Sons has offered for sale two issues of stock—42,868 shares of $4.25 cumulative preferred stock, Series B, no-par value, and 44,799 shares of common stock. The preferred is priced at $105 a share and the common at $64 a share. Of the net proceeds from the sale of the two issues, estimated at $7,072,653, $4,750,000 will be applied to the retirement of the company's long-term bank indebtedness. The balance will be available for additional working capital and for the construction of additional facilities. A part of the expansion program now under way is the construction of additional facilities for the production of penicillin.

Upon the sale of these two issues, the company's capitalization will consist of $4,250,000 twenty-year 3¼ per cent sinking fund debentures, due May 1, 1961; 56,992 shares of $5 cumulative preferred stock, Series A; the new Series B preferred stock, and 495,606 common shares.

The Series B preferred is subject to redemption as a whole at any time or in part from time to time upon not less than thirty days' notice at $110 a share before May 1, 1945, and at $107.50 a share thereafter.

### Abbott Earns More

Abbott Laboratories reports for the nine months ended with September a net profit of $2,206,521, equal to $2.80 a share and comparing with a revised net of $1,602,406, or $2 a share, in the first nine months of 1942.

### American Home Earnings Up

Alvin G. Brush, chairman of American Home Products Corp., has announced that sales increased 44 per cent in the first nine months of 1943. Profits before taxes were 40 per cent higher than in the corresponding period last year and net earnings after taxes showed a gain of 14.5 per cent.

Net earnings for the period were $3,262,111, equivalent to $3.56 a share and comparing with a net of $2,848,483, or $3.34 a share in the first nine months of 1942. Provisions for taxes set up for the first nine months of this year was $6,907,483 as compared with $4,402,104 in the same period of 1942.

### Bristol-Myers Quarter Off

Bristol-Myers Co. and subsidiaries, including Canada but excluding foreign subsidiaries, report for the September quarter net earnings of $729,217, or $1.09 a share, compared with $814,685, or $1.22 a share for the same quarter last year.

For the first nine months of this year the net earnings, after $3,831,700 taxes, were $2,013,044, or $3.01 a share, against $1,818,589, or $2.73 a share, after $3,922,876 taxes, last year.

### Commercial Solvents Net Up

Commercial Solvents Corp. reports for the nine months to September 30 a net profit of $1,988,629, equal to 75 cents a share, after deduction of $4,423,-150 for taxes. This compares with a net of $1,670,927, or 63 cents a share, earned in the first nine months of 1942 when the deduction for taxes was $5,511,600.

For the September quarter the net was $768,305, or 29 cents a share, compared with June quarter net of $568,695, or 21 cents a share, and $527,016, or 20 cents a share, for the third quarter of 1942.

### Continental Can Earns Less

Continental Can Co., Inc. and subsidiaries report for the twelve months ended September 30, a net income of $4,644,167, after deducting $9,518,990 for depreciation and estimated income and excess profits taxes. The earnings which are subject to current year-end adjustments, are equivalent to $1.63 a share and compare with a net of $5,353,-762, or $1.87 a share, for the previous twelve-months period when deductions for taxes and depreciation amounted to $7,943,653.

Net earnings for the twelve months ended June 30, 1943 were $4,987,331, or $1.75 a share.

### Coty Net Steady

Coty, Inc., reports for the nine months ended with September a net profit of $506,424, equal to 34 cents a share. This is after deduction of $100,000 as a reserve for contingencies and $917,211 as provision for Federal taxes, less $67,500

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post-war refund. Net profit for the corresponding nine months of 1942 was $501,968, or 34 cents a share, after provision of $634,649 for Federal taxes.

### Crown Cork Earns Less

Crown Cork & Seal Co., Inc. and wholly owned domestic subsidiaries report for the first nine months of 1943 a net profit after $2,123,513 taxes, of $1,157,069 or $1.50 a share. This compares with a revised net of $1,312,132, or $1.80 a share, earned in the first nine months of 1942 when the deduction for taxes was $1,171,037.

### Dow Preferred Stock

At a meeting held November 8, stockholders of Dow Chemical Co., Midland, Mich., voted to authorize an issue of 600,000 shares of new $4-par preferred stock. It is planned to offer 60,000 shares in exchange for the present 5 per cent preferred and to sell 249,741 shares to common stockholders to raise additional working capital.

### Hinde & Dauch Net Down

Hinde & Dauch Paper Co. reports for the nine months to September 30 a net profit of $784,208; or $1.80 a share, after deduction of $1,968,200 for taxes. This compares with a net profit of $994,319, or $2.39 a share, after $1,635,500 for taxes last year.

For the September quarter the net profit was $273,515, or 63 cents a share against the June quarter net of $269,226, or 62 cents a share, and $198,998, or 43 cents a common share for third quarter last year.

### Lambert Earnings Higher

Lambert Co. reports for the nine months ended with September a net profit of $1,715,159, or $2.29 a share, compared with $1,314,506, or $1.76 a share last year.

For the September quarter the estimated net was $606,420, or 81 cents a share, compared with $533, 988, or 72 cents a share, a year ago.

### McK. & R. Doubles Nets

McKesson & Robbins, Inc. reports for the three months ended September 1943, the first quarter of the company's fiscal year, a net profit of $1,266,443, after provision of $3,025,779 for federal income and excess profits taxes computed at the rates of the 1942 Revenue Act. This was equivalent to 70 cents a share on the common stock, and compares with a profit for the corresponding quarter last year of $693,565, after provision of $1,974,257 for taxes for Federal taxes estimated (before passage of the 1942 Revenue Act) at a combined rate of 45 per cent for normal and surtaxes and 90 per cent for excess profits taxes. Reduction of the provision to conform to the rates later specified by the Act would have resulted in an increase in profit of $197,802, and would have increased the earnings from 37 cents as reported to 48 cents per share of common stock.

Net sales for the period were $70,148,127, an increase of 7.37 per cent over the $56,019,855 for the comparable period last year.

### Lehn & Fink Earns More

Lehn & Fink Products Corp. reports for the September quarter a net profit of $97,175 or 24 cents a share, after income tax provision of $68,000. This compares with a net of $84,511, or 21 cents a share, after $55,600 taxes, for the similar quarter of 1942.

### Monsanto Earnings Steady

Monsanto Chemical Co. reports for the nine months to September a net income, after $8,211,296 estimated taxes, of $4,145,705, or $2.77 a share against adjusted net earnings of $2.76 a share last year.

### Norwich Earns More

Norwich Pharmacal Co. reports for the nine months ended September 30 a net income of $677,000 after provision of $1,393,538 for Federal taxes. This is equivalent to 85 cents a share and compares with a net of $539,886, or 67.8 cents a share, earned last year when the provision for taxes amounted to $808,162.

For the quarter ended with September the net profit was $278,412, equal to 34.9 cents per share and comparing with a net of $209,202, or 26.3 cents a share earned in the September quarter of 1942.

### Pfizer Net Higher

Chas. Pfizer & Co., Inc., reports for the nine months to September 30 a net profit, after $2,500,000 estimated taxes, of $1,345,046, or $2.69 a share. This compares with a net of $873,623, or $1.75 a share, after $1,485,000 taxes last year. Sales rose to $11,877,536 from $8,207,968. Earnings for this year's period set a new high record and are greater than for any full year with the exception of 1929 when $2.70 was earned for the twelve-month period.

### United Drug Earns More

United Drug Co. reports for the nine months to September 30 a consolidated net profit, after $5,246,697 taxes, of $1,863,917. This is equal to $1.33 a share and compares with a net profit of $1,585,628, or $1.13 a share, after $3,734,378 tax provision in the first nine months of 1942.

For the September quarter the net profit was $638,988, or 46 cents a share, compared with $617,489, or 44 cents a share for the September quarter a year ago.

### Zonite Earns More

Zonite Products Corp. and subsidiaries, including Canadian but excluding English subsidiary and Australian and Chilean branches, report for the September quarter a net profit of $129,718, or 16 cents a share, against $90,641, or 11 cents a share, earned in the September quarter of 1942.

## Obituaries

### Jessica Ogilvie

Jessica Ogilvie, founder and for thirty-six years head of the firm of Ogilvie Sisters, New York, hair and scalp specialists, died Saturday, October 23, at the Harkness Pavilion of the Columbia Presbyterian Medical Center. She was born fifty-eight years ago in San Francisco, the fourth of the seven Ogilvie sisters.

Victim of a malarial disorder which affected the health of her own hair, Miss Ogilvie had long been experimenting with an herbal preparation intended for use on the scalp and hair. In 1907 she came to New York, carrying with her the finished formula for the original Ogilvie preparations. She began her business career as a scalp specialist and enlisted the aid of her family.

Ogilvie Sisters salons were established in New York, Washington, Paris and Biarritz, the latter two closing only upon the advent of war.

Jessica Ogilvie is survived by four sisters: Mrs. Clara Ogilvie MacInnis, Mabel Ogilvie Carter and Georgina Ogilvie Tweedle of New York, Elizabeth Ogilvie of Washington, D. C., and one brother, William Ogilvie of Philadelphia, and a brother-in-law, John H. Curry.

# INDUSTRY'S BOOKS

*An Introduction to the Chemistry of Cellulose*, by J. T. Marsh, M.Sc., F.I.C., F.T.I., and F. C. Wood, Ph.D., F.I.C., F.T.I., Second Ed., 512 pp., D. Van Nostrand Co., New York, $8.50.

The subject of cellulose chemistry is not among the simplest of studies, but the important advances of recent years have clarified it to such an extent that the authors have made possible a relatively simple book which may act as a guide to the chemists who are entering those branches of our industries which are concerned with cellulose. Although it is only three years since the first edition of this book was published, there have been many further developments in cellulose chemistry, and these have been incorporated into the present volume. The work has been divided into five main parts as follows: Part One—The Occurrence and General Properties of Cellulose; Part Two—The Constitution and Structure of Cellulose; Part Three—Dispersed Cellulose; Part Four—Modified Cellulose; Part Five—The Derivatives of Cellulose.

*Drug Store Yarns*, by Paul Antle, 156 pp., Illus. by Frank Krieg, The Hobson Press, Cincinnati, $2.

Paul Antle is a St. Louis druggist who has spent his life in the drug business. These stories are based upon his experience as a druggist. For many years Mr. Antle has been writing stories, some of which have been published in various magazines. The group contained in this volume has never been published before. Although he dedicates them to the American druggist, the average reader will enjoy them because of their human interest.

*Epitome of the Pharmacopoeia of the United States and The National Formulary*, Seventh Ed., 271 pp., American Medical Association, Chicago, 60c.

This Seventh Edition of the Epitome is corrected and revised in accordance with the Twelfth Revision of the Pharmacopoeia and the Seventh Edition of the National Formulary. Official descriptions of the items are epitomized to contain the following information: official titles and their abbreviations, synonyms, brief definitions, concise descriptions of the physical properties, actions, uses and dosage. A complete index has been included to facilitate easy reference.

*Urine and Urinalysis*, by Louis Gershenfeld, B.Sc., P.D., Ph.M., D.Sc., Professor of Bacteriology and Hygiene and Director of the Bacteriological and Clinical Chemistry Laboratories at The Philadelphia College of Pharmacy and Science, Second Ed., 304 pp., Illus., Lea & Febiger, Phila., $3.25.

This useful work appeals to a wide field. It offers an up to date monograph on urinalyses to graduates in pharmacy, chemistry, bacteriology and allied professions, the nursing profession, technicians and those many practitioners in medicine interested in the performance of these tests. This edition presents an abundance of new material and reflects the advances which have accumulated since the first appearance of this work. It has been thoroughly revised to cover the recently-introduced procedures and it is based on the author's personal performance of over 40,000 urinalyses.

*Methods For Diagnostic Bacteriology*, by Isabelle G. Schaub, A.B., Instructor in Bacteriology, The Johns Hopkins University School of Medicine, and M. Kathleen Foley, A.B., Bacteriologist, The Johns Hopkins Hospital, Second Ed., 430 pp., C. B. Mosby Co., St. Louis, $3.

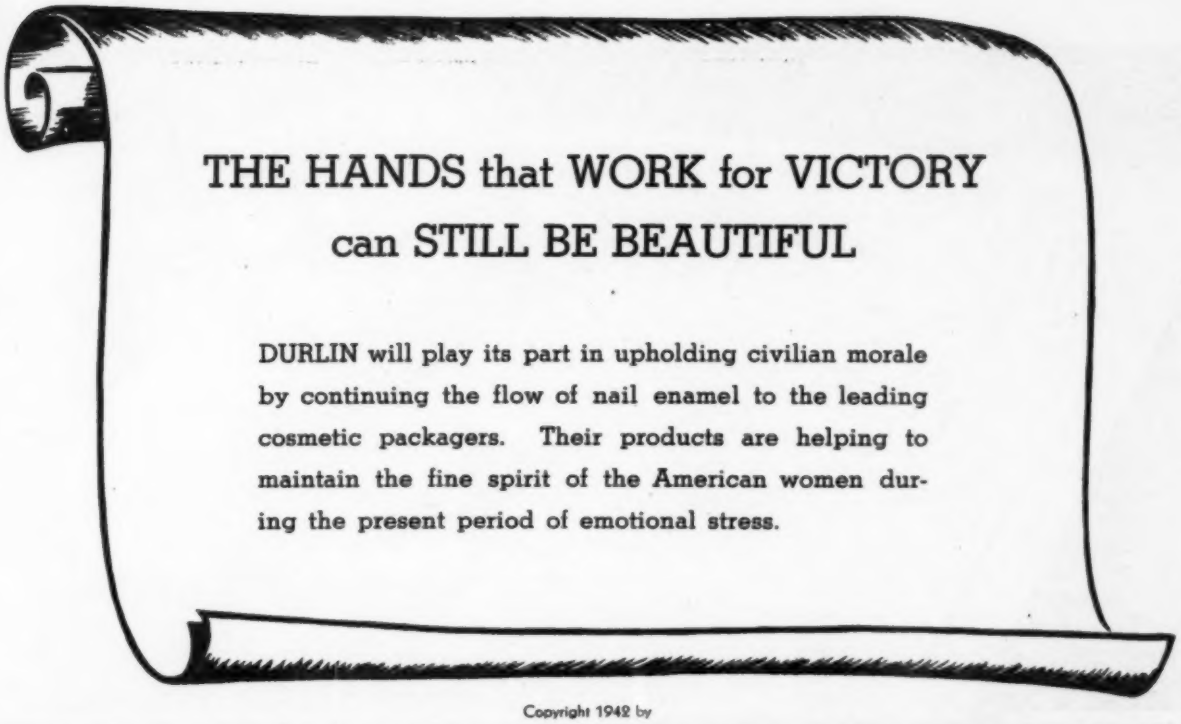
The most outstanding addition to this second, revised edition is a chapter which will prove of practical, time-saving value to every user. Presented in it are methods for the rapid identification of commonly occurring pathogenic bacteria by colony characteristics. By familiarity with these procedures, reports can sometimes be made within twenty-four hours. In the first chapter are given explicit directions for the handling of clinical and autopsy material. Following the new Chapter II are five chapters which cover step-by-step directions for the identification of organisms which are commonly encountered in medical bacteriology. Methods for serological study of organisms and patient's sera are presented in Chapters VIII and IX. The remaining chapters include formulas and methods for preparation of culture media, reagents, stains, and other microscopic preparation suggested in the foregoing procedures, and directions for performing the tests referred to.

*Cosmetics And How To Make Them*, by Robert Bushby, M.P.S., Principal of the School of Cosmetic Chemistry, Director Complac Laboratories, Ltd., Third Ed., 182 pp., Sir Isaac Pitman & Sons, Ltd., London, $3.

This is a simply-written, practical guide for beauty specialists, hairdressers and all others who are concerned with the preparation of face powders, vanishing creams, nail polishes, rouges, lip sticks, and other cosmetics. The instructions are straightforward and easy to follow and no previous knowledge of chemistry is required for the practice of the methods described. The formulae have been selected either as typical of a class or as good examples of a process.

*New And Non-official Remedies, 1943*, Issued Under the Direction and Supervision of the Council on Pharmacy and Chemistry of the American Medical Association, Chicago, 772 pp., $1.50.

New and Non-official Remedies is a book in which are listed and described the articles that stand accepted by the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Council on Pharmacy and Chemistry of the American Medical Association on January 1 of the year of publication. The description of accepted articles are based in part on investigations made by, or under the direction of the Council and in part on evidence or information supplied by the manufacturer or his agents. Statements made by those commercially interested are examined critically and admitted only when they are supported by other evidence or when they conform to known facts. The present volume has been revised in accordance with specifications of the U. S. Pharmacopoeia XII and the National Formulary VII.

*Chemistry and Methods of Enzymes*, by James B. Sumner, Professor of Biochemistry, Cornell University and G. Fred Somers, Instructor in Biochemistry, Cornell University, 365 pp., Academic Press, Inc., New York, $5.

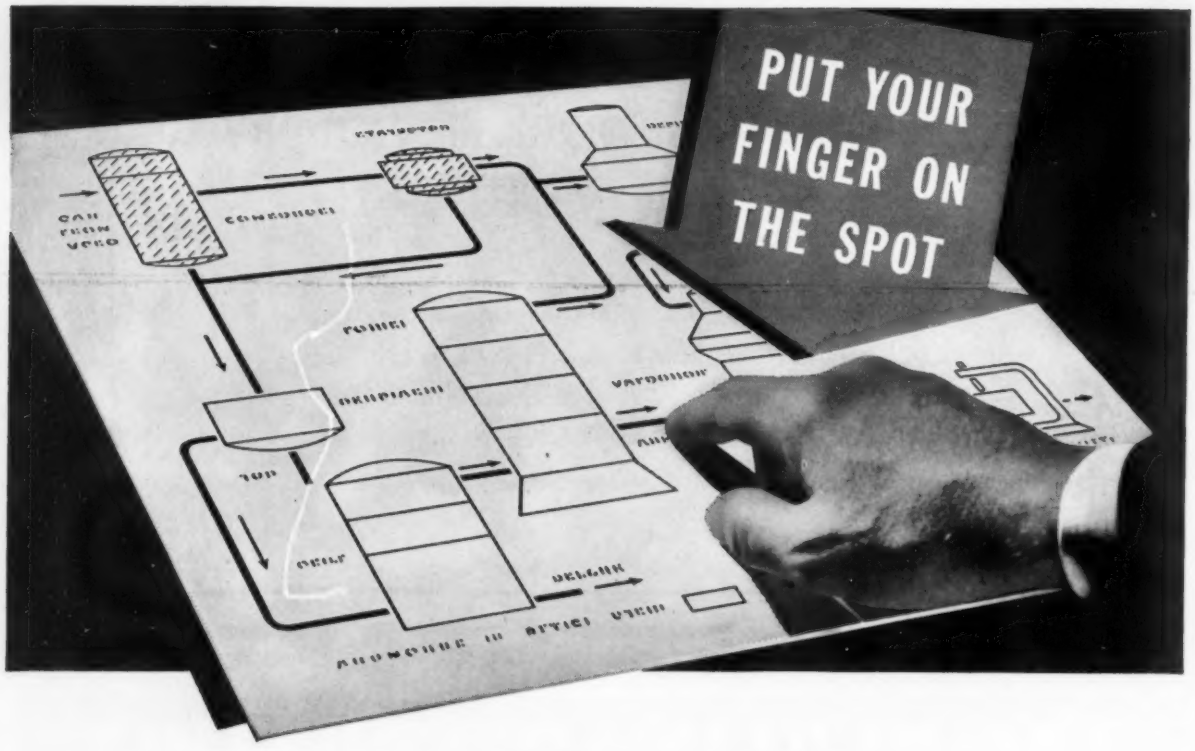
In this book the authors have attempted to give the research worker and advanced student a general survey of enzyme chemistry without presenting too much detail on any one subject. A few words have been written about the history, occurrence, action, specificity, activity measurement, activation, and inactivation, preparation and properties of most of the important enzymes. The first chapter covers the general properties of enzymes; the second to seventh chapters include the hydrolytic enzymes; the eighth to fifteenth chapters include oxidative enzymes; the sixteenth and seventeenth chapters include desmolases, hydrases and mutases; the last and eighteenth chapter deals with various phases of carbohydrate metabolism.

*Elements Of Food Biochemistry*, by William H. Peterson, Ph.D., Professor of Biochemistry, University of Wisconsin, John T. Skinner, Ph.D., Assistant Chemist, Kentucky Agricultural Experiment Station, and Frank M. Strong, Ph.D., Associate Professor of Biochemistry, University of Wisconsin, 291 pp., Prentice-Hall Inc., New York, $4.

The purpose of this book is to emphasize the chemistry of the constituents of food and the chemical changes that these constituents undergo in the process of metabolism. Three previous editions have been issued in photographic offset form, and have been used for about twenty years at the University of Wisconsin. For the present edition the text has been completely revised, and a new chapter on acidity has been included. The chapters on mineral elements, enzymes, and vitamins in particular have been largely rewritten. Four extensive tables on the composition of foods also have been added. The table on the vitamin content of foods contains data for several of the newly discovered B vitamins not previously compiled in any convenient form.

*Encyclopedia of Substitutes and Synthetics*, edited by Morris D. Schoengold, 362 pp., Philosophical Library, New York, $10.

This encyclopedia covers products which have been recently developed in order to replace critical materials which have become difficult or impossible to obtain due to present world conditions. The book discusses substitutes of interest to all branches of industry, manufacture and pharmaceutics from aluminum to quinine. The encyclopedia also includes comprehensive explanations of plastics and other synthetics which for years have been replacing many of the commonly known applications of metal. This work should prove of great usefulness to industrial and laboratory chemists who are in search of new and improved materials.

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# PRODUCTION FORUM

By FRANCIS CHILSON
Production Engineer

## DRYING

It is my belief that the post-war period will reveal some phenomenal improvements in the science of drying, dessication or dehydration as it is more fashionably called. Up to the war period the scientific factors affecting drying were known but these factors in the main were applied as an art and not as a science. You are all familiar with the old-timer who sticks his elbow into the dryer to determine when conditions are exactly right. During the war period emphasis was placed on drying because of the military demand for dehydrated products which could be condensed in volume and shipped into any climate and reconstituted without appreciable loss in flavor, nutritional elements, and color. Some of these products had never appeared before in completely dehydrated form. At the same time the demand for products, which at one stage of process or another had to be dried, was so great that the acceleration of drying time became a matter of vital importance. Drying in the manufacture of almost every product is virtually always a bottleneck. Drying is the one operation which extends into every industry almost without exception. Because of the universal need for shorter drying periods some rather startling discoveries have been made, or rather, manufacturers have learned properly to apply the well-known physical principles affecting the removal of moisture from solids. Therefore, at this time as the night club maestros say, it seems appropriate to review briefly the various types of drying apparatus now available as well as those which will be available as soon as military needs have been served.

As a preliminary let me remark that drying simply means an alteration in the vapor pressure of the moisture contained in solids. To accomplish such a change, heat is necessary. Some form of heat is necesnary even when the dehydration is accomplished at subzero temperatures. Therefore, all drying or dehydration apparatus consists of means whereby heat is conveyed to the moisture contained in solids. First, I shall discuss the most common types of dryers:

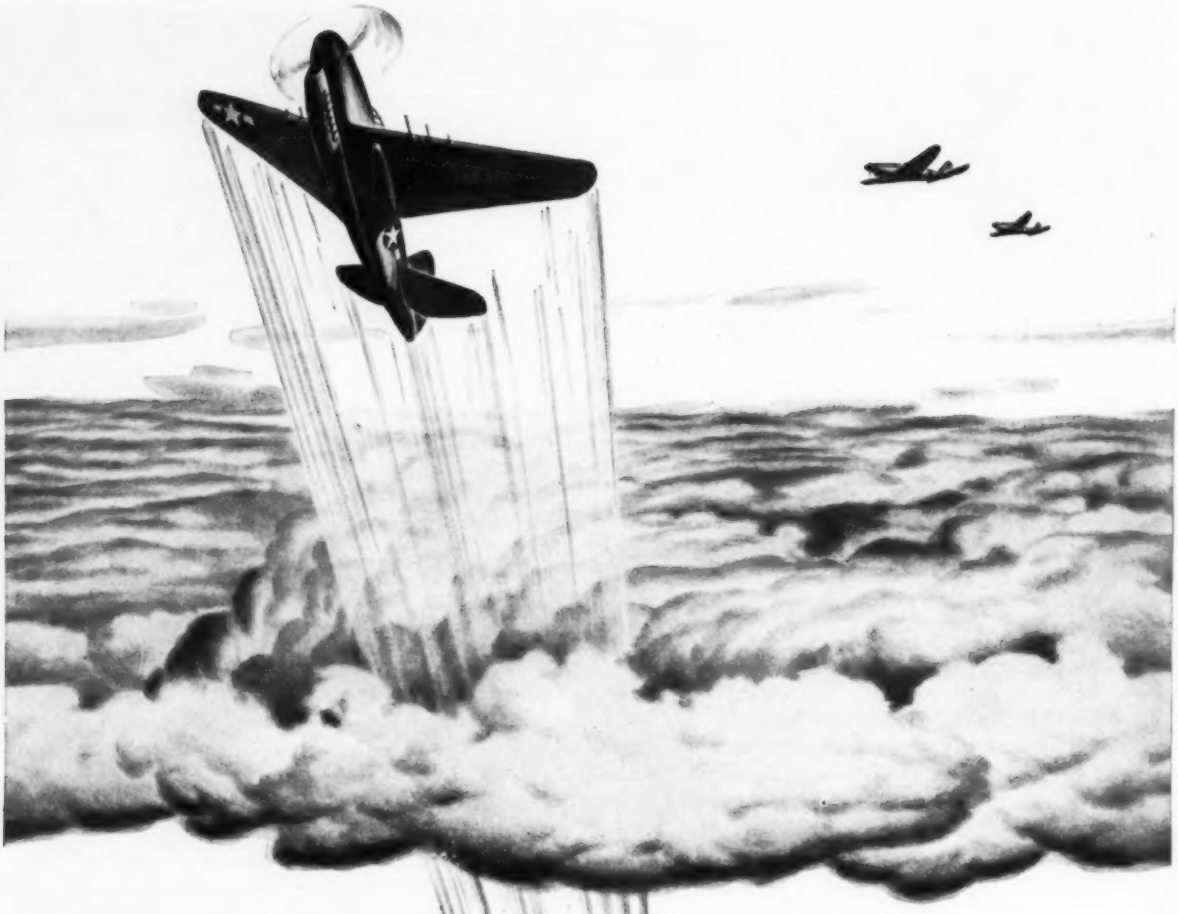
CONVECTION DRYING. In convection types of dryer material is heated by means of heated air. The heated air may be moved or circulated by means of natural convection as it is in the old-fashioned dryers in which air is heated by means of steam coils but which contained no mechanical means of circulating the air. Modern convection dryers depend on fans for the circulation and recirculation of heated air. The various types of convection dryer are listed below:

*Drying Closets and Rooms.* These devices are known as natural convection dryers. Heat is supplied by means of steam coils or gas burners or electric heating elements and air is admitted through openings near the bottom of the chambers and as it becomes heated, rises and passes off at the top, carrying liberated moisture with it. Such dryers are cheap to build, expensive to operate, and completely inefficient.

*Shelf Dryers.* Shelf dryers consist of insulated cabinets equipped with heaters and provided with fans to circulate heated air. They usually are equipped with means of controlling the temperature of the air but seldom are also provided with means of controlling its humidity. The efficiency of such a dryer will depend on its controls, the volume of air circulated, the uniformity of its distribution over the several shelves, and its insulation.

*Truck Dryers.* For convenience in handling materials the truck dryer was developed out of the shelf dryer. In such a dryer the trays are placed on trucks and the entire truck is wheeled into the dryer. Otherwise the construction and control of a truck dryer is similar to that of a shelf dryer.

*Continuous Truck Dryer.* In the conventional continuous truck dryer provision is made for housing from four to a dozen trucks. The openings to such a dryer are at the ends. Means is provided in the form of a pusher bar or a drag chain for conveying the trucks through the dryer. Continuous truck dryers, or tunnels as they are sometimes called, are used for large batch production. In conventional models heated air enters the dryer at the discharge end and is forced toward the intake or wet end. This method of air distribution is open to challenge on efficiency grounds. Within very recent times, however, there has been a marked improvement in the method of distributing air through such dryers.



## NOTHING TO IT, EH?

Modern war planes can climb a mile a minute. In very few minutes a fast climber can be up in the sub-stratosphere. But . . .

Temperature takes a nose dive as the plane soars higher. At 20,000 feet the temperature is well below zero. Apparently at about 35,000 it becomes fixed . . . *at 70 degrees below zero* in the temperate zone. Over the equator, stratosphere temperature drops as low as 100 degrees below zero.

Both pilot and plane encounter troubles in the bitter-cold, rarefied air of the sub-stratosphere. Moisture freezes, oil congeals, engines gasp and die unless aided by turbo-superchargers.

Nevertheless, planes and pilots are learning to fight at higher and higher levels—thanks to research conducted on the ground in test chambers which reproduce the conditions of the stratosphere. Accurately controlled *air conditioning and refrigeration*...plus controlled pressure...make these tests possible.

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*Continuous Belt Dryers.* A belt dryer is simply an insulated tunnel containing one or more belts on which material is spread in a thin layer. As in the case of truck dryers, the usual procedure is to admit air at the discharge end and blow it toward the wet end. When the dryer contains only one belt, this method of distributing air is reasonably efficient but when the length of the drying cycle or the volume of material to be dried requires a series of belts, this method of air distribution is open to challenge. Improvements have been made such as the introduction of reversible type fans but these also can be challenged on the ground of operating efficiency. Obviously such a dryer is a one-product affair; it is limited therefore to large production volumes; it is perforce inflexible.

*Tray or Pan Dryers.* These are another form of continuous belts and usually are employed when the material contains a high percentage of moisture, as for example, in the case of slurrys. The pans may be attached to a continuous chain, in which case they are filled by a mechanism at the intake end of the dryer. In certain instances the chain may merely contain means for holding the trays which are loaded apart from the dryer.

It is obvious that all of the foregoing types of dryer have one inherent deficiency, namely, that material rests quiescent in layers of varying thicknesses. In the multiple belt types the material is agitated to a limited extent as it spills from one belt to another, but a recent development provides for continuous agitation of the material as it travels on the belts.

*Rotary Dryers.* These dryers were developed as a means of overcoming the inherent deficiency abovementioned and various means for agitating the material being dried are incorporated in them. In the simplest type a cylindrical drum rotates on its horizontal axis and is equipped with flights or spirals so that material being dried is continuously being tumbled. This type of dryer may be either of the natural or the forced convection type. In the former the drum is jacketed or is provided with steam coils. Thus the material is tumbled about as it travels on a hot surface. The ends of the dryer are open to permit natural convection. A more modern type is provided with fans and external means of heating air which may or may not be recirculated. In some cases it's sufficient to introduce the heated air at the dry end and allow it to escape at the wet end into a stack. A still more recent type contains louvres and an annular space behind the louvres for the introduction of heated air. Obviously this refinement increases the efficiency of the dryer because the externally heated air passes through the louvres and is thoroughly mixed with the traveling and agitated material.

*Spray Dryers.* The use of spray dryers has increased enormously within the past two years. As distinguished from other types, spray dryers are utilized for fluids such as milk, eggs, drug extracts, chemical slurrys, et cetera, in which the solid content may be as little as 5 per cent. In a true sense they are flash type dryers in which evaporation occurs instantaneously. Spray dryers are designed to operate at very high temperatures and to handle enormous volumes of air. They consist of large diameter drying chambers, usually fifteen or twenty feet in diameter, and about an equal depth. Filtered and heated air or gas is introduced at one side of the chamber and the material to be dried is atomized into this air stream by means of high speed centrifugal atomizers or pressure guns. The fine mist of fluid striking the heated air flashes instantly while the dried solids precipitate to the cold bottom of the chamber. Unlike the foregoing types of dryer the moisture in this case is heated to the vaporization point but the solids are not. The dried solids precipitate to the cold zone at the bottom of the dryer where they are intermittently or continuously removed. Thus material can be instantly dried to a moisture content as low as one-half of one per cent. Hence the method has been applied to fluid substances containing vitamins and delicate flavors without appreciable loss of either. A very recent innovation in this type of drying is the introduction of a paste dryer utilizing similar construction principles. In this case paste such as yeast or filter cakes of various kinds are subdivided by centrifugal means into fine particles and sprayed into an air stream. Spray drying has been applied in this industry to the concentration of fluid extracts having aqueous menstruua. Because alcohol or other volatile solvents cannot be recovered from an air stream by commercial condensation, the method has not been applied to fluid extracts containing volatile solvents.

RADIATION DRYING. The primary characteristic of a radiation type dryer is that material is heated by heat waves radiated from a hot surface. A primitive example is evidenced by the sun dryers one frequently sees in the fruit fields of California. Now it is a characteristic of radiation drying that heat will be radiated from a heat source regardless of interposed air. This may be illustrated by the fact that in iron foundries and smelters where a terrific amount of heat is radiated from the crucibles, you cannot reduce the amount of heat radiated by blowing air across the hot surfaces. It is for this reason in such operations that air is blown directly on the workmen to offset the radiated heat by accelerating the evaporation of moisture from their bodies. A radiant heat dryer, therefore is an apparatus in which material is heated from a heat source by direct rays without the interposition of a conveying means. The most common types are as follows:

*Infra Red Dryers.* Aside from certain types of oven this type of dryer is the most commonly understood radiation dryer. Heat is radiated to material from very hot infra red elements. No amount of air blown across the material will prevent the absorption of heat from the heat source. In a certain sense, however, infra red dryers are true radiation dryers only when the lamps are enclosed within a vacuum chamber. As generally applied natural convection takes place from the simple fact that heated air increases in volume and rises, thus causing a natural air movement. It is a characteristic

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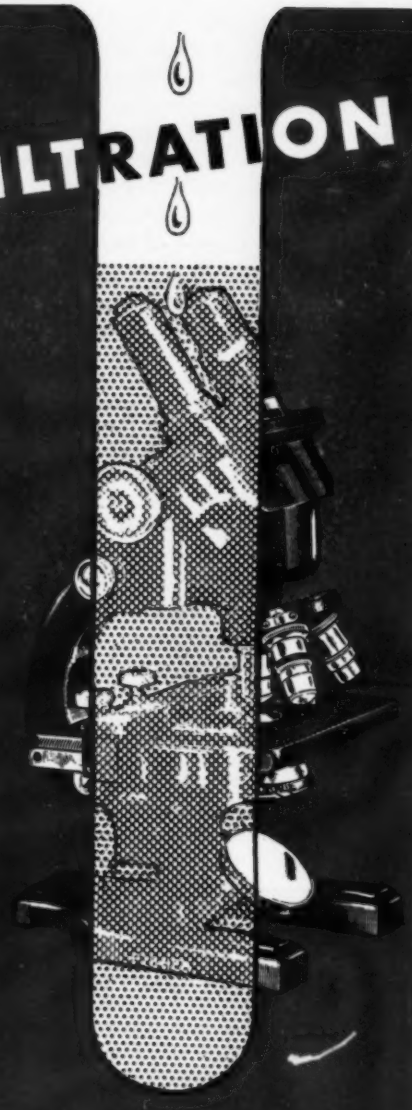

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of infra red drying, however, that quick penetration is secured and material begins to dry, in effect, inside out. Hence, infra red has been applied to the drying of materials which have a tendency to case harden readily.

*Vacuum Dryers.* In certain instances vacuum dryers are true radiation dryers but only when the material is held within the chamber without contact with heated trays or jackets. When material rests directly on a steam heated jacket or on steam or water heated shelves, the vacuum dryer partakes of the nature of a conduction dryer.

*Electric Dryers.* In a few instances where electricity is cheap, dryers are built with resistance heating elements. Such dryers are much less desirable than the infra red types because of their tendency to case harden material quickly. What has been said of infra red dryers can be said of these dryers as well. Radiation dryers are built in various forms. There are shelf types, truck types, and continuous types of one form or another.

CONDUCTION DRYING. Conduction dryers consist of those types in which the material is dried by direct contact with the heat source. A common example is the atmospheric drum dryer. In this apparatus a material film is spread on the surface of a revolving heated drum. Drying on a heated surface of this type is affected only to a limited extent by air currents. Another type is the vacuum drum dryer in which liberated moisture is conveyed away from the drying film by means of suction. Conduction type truck dryers have been built in which the trucks and the trays were electrically heated. A vacuum shelf dryer in which material is heated by means of steam or hot water circulated through the shelves on which the material rests is also a very common type of conduction type dryer.

INDUCTION DRYING. This type of drying has come into use only within the past few years. Induction dryers are constructed in the form of shelf, truck, or continuous types. They are operated by means of magnetic elements which create a magnetic field between poles on opposite sides of the dryer. Material placed within or moving through this magnetic field will become heated and will liberate moisture, but only if the material itself is a conductor. I know of no application as yet in the chemical or pharmaceutical field for this type of dryer. It has been used in the metal working industry, especially for drying small parts which have been washed to remove cutting or plating compounds. This type of dryer must not be confused with electronic dryers. In induction type dryers heat is induced by the passage of conductive material through a field created by opposite poles which may be placed at a considerable distance from the material itself.

ELECTRONIC DRYING. This type of drying differs from induction drying in that the material subject to treatment need not possess electrical properties. Electronic dryers operate by bombarding the material at close range with electrons which create heat by fighting their way through the mass of material. The electronic elements must be located close to the material and so far as I know the method has never been applied to any kind of continuous dryer. Electronic drying has, for example, been used for drying coarse vegetables such as carrots and potatoes. Electronic drying also is known as diathermic drying. If you thrust your hand into an electronic dryer, you will receive no sensation of heat until your hand is held in the field for some time.

RESISTANCE DRYING. A recent innovation in the electric drying field consists of the resistance dryer which is applicable to materials containing a high percentage of water with electrolytic properties. Slurrys or sludges containing a fairly high percentage of water will dehydrate very rapidly but drying will cease the moment the water has been driven off because the current no longer will pass through the material from positive to negative poles. The writer has not had sufficient experience with this type of dryer to know how thoroughly material can be dried but rather doubts that it can be brought below 5 or 6 per cent. A resistance dryer consists of simply a nonmetallic tray with a series of positive and negative grids spaced at intervals along the tray and arranged so that they are completely covered with material.

ABSORPTION DRYING. The most primitive type of this kind of dryer is illustrated by the chemical desiccators which you see on every laboratory table. These desiccators contain a hygroscopic material such as lime, calcium chloride, silica jell, et cetera. Material is placed in a sealed vessel in close proximity with the dehydrating agent, and the moisture passes from it into the absorbing agent. The method has not been applied on large scale production because it is too slow and expensive.

SUBLIMATION DRYING. When dry ice is exposed to atmosphere it passes directly from a solid to a vapor state without passing through the liquid phase. The same thing is true of virtually any liquid when first frozen into a solid at subzero temperatures and then subjected to a very high vacuum. This process is sometimes called refrigeration dehydration and it is known to you because of its application to the desiccation of serums, blood plasma and the like. You may not know, however, that the identical process has been applied experimentally to the dehydration of orange juice and meat extract. At the moment the writer questions the economics of the method when applied to ordinary run-of-the-mill commercial products. The cost of apparatus to produce subzero refrigeration, on the one hand, and of apparatus to produce vacuum within one-tenth of a cat's whisker of absolute, together with the cost of operating such equipment on a large scale would seem to be prohibitive for general application. However, it is possible to be completely wrong, and this method is now being investigated.

CONCLUSION. In this very brief summary I have reviewed the various types of drying. I think the summary is complete with respect to types of dryers even though incomplete with respect to operating details and application. Enough has been done in the

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past two years to permit the statement that if you now have a product which must be slowly air dried over a period of days or weeks that the job can be done in a few hours provided you select the right type of equipment.

## DOUBLE E'S

It delights me to report that the Chattanooga Medicine Company is the first drug manufacturing establishment to receive two E pennants simultaneously. One was merited for the production of pharmaceuticals and the second for the production of K-ration. The second E was awarded to Patten Food Products, the food division of the Chattanooga Medicine Company. Special commendation is due Lupton Patten, president of the company, for his invincible determination to use all his facilities and manpower in the war effort in a big way without profit to himself or his organization. To Sam Noble general plant manager goes the laurel wreath not only for stimulating management of a constantly expanding plant but also for his efforts in personally obtaining a large share of the business from the Army and Navy. To B. E. Jennings, plant superintendent, for his untiring energy in getting the stuff out; to Joe Persinger, purchasing agent, for his forbearance in not going fishing when materials had to be wangled out of somebody somewhere, to George Fontaine, vice-president, for keeping the oil on bearings and the boys from hitting each other in the clinches when the going got tough, and finally to Ward Hastings for his ability to pull the eight gadget out of the hat at the right time.

This isn't the first time the Chattanooga Medicine Company has distinguished itself. It is, I believe, the only pharmaceutical manufacturer that ever had the guts to tell the American Medical Association where to head in when that august organization stepped out of bounds.

I feel particularly pleased about the award because the Chattanooga Medicine Company has been one of my oldest and best clients. There is no group of men I like better, nor any organization that I'd rather work for. Don't think for a minute I am claiming any credit for either of the Es (although I am conceited enough to admit that most of my clients have received them at one time or another), because at the time Lupton Patten wanted to get into K-ration in order to utilize an entire building which the modernization program had left idle, I fought him tooth and nail. At that time the Army was changing the specs on K-ration every twenty minutes and I was afraid we'd get stuck badly. But when a Patten, especially Lupton Patten, makes up his mind to do anything, it's like spitting against the wind to oppose him. So I had to get on the wagon or be run over. The anticipated changes miraculously did not occur. The delivery deadline was beaten on the first contract and on all subsequent contracts until now the Chattanooga Medicine Company or rather Patten Food Products, is the largest producer of K-ration in the country. Their layout incidentally, was commended to the Quartermaster General as being the cleanest and most efficient in the entire nation. When I went to Chattanooga for the first time several years ago, a carload of material either coming into or going out of the plant was something to be conjured with because most materials came in and out by truck. Now in addition to an abnormal volume of materials handled by truck, eight or nine carloads of materials a day pass in and out of the plant without disturbing anybody. The metamorphesis is bewildering. It must be the Tennessee moonshine. To my friend Lupton Patten I say, "Good work and good luck. I hope to God the war ends before you think of anything else to load into that plant."

## WASHER

Some of you have had a good deal of difficulty washing ampoules, small vials, et cetera. I have a hunch it would be worth your while to look into the automatic washer built by Maxon Utilities Corporation for washing delicate instruments and small parts. This apparatus resembles a portable washing machine. It consists of a cylindrical housing, a wire mesh basket, and a propeller for circulating the solvent. You can use any kind of solvent such as soap solution, trisodium phosphate, or you can use volatile solvents such as trichlorethylene, carbon tetrachloride, alcohol, et cetera. The design of the apparatus is such that the material being washed is held in a stationary position; hence there is no tumbling or breakage. It occurred to me after looking the apparatus over that it would make a swell little extractor for small lots of crude drug.

## X-RAY

North American Philips Company has introduced a device known as a search ray which makes it possible to detect foreign bodies in packaged goods. By the same token it would seem easily possible to apply this apparatus to the detection of lint and other foreign matter in filled ampoules.

## COSMETICS WANTED

I would appreciate it very much if a few of my friends in the cosmetic industry would ship me some highly perfumed toilet soap, talcum powder, and toilet water. This material will be forwarded to Rosary Hill Home, Hawthorne, New York, for the benefit of poor people suffering from incurable cancer. Rosary Hill Home, as you may know, was founded by the daughter of Nathaniel Hawthorne. It is operated exclusively for people without means. My wife is a member of a committee of the Scarsdale Women's Club which collects items which these unfortunate people can use. The items mentioned are particularly desirable because they help to conceal the odor of cancer, which is all-prevalent in spite of the utmost sanitation. Therefore, if you have some discontinued numbers—the more highly scented the better—ship them to me and Ill see that they are delivered to people who will be deeply grateful to you.

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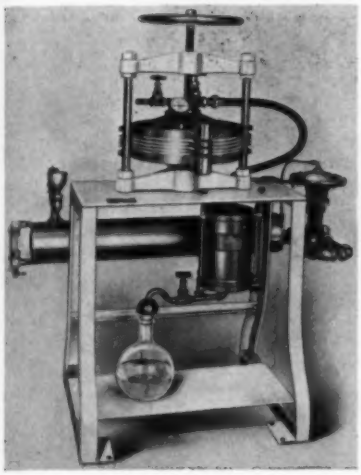

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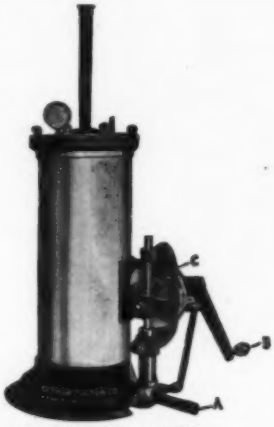

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Caution is advised, however, when it is used in toilet waters or perfumes as it will be noticed on examination that a slight trace of the petitgrain odor still persists which might cause a slight deviation in the finished product. It is, therefore, recommended that a preliminary test be made in such instances to determine whether or not the product will prove satisfactory.

As to price, it will be found that at the present levels, linalyl acetate from bois de rose would sell at about $7.75 per pound whereas the product from petitgrain is well within the soap maker's range at $2.75 per pound. Unfortunately, a source of this kind for linalool has not as yet been found but it is hoped that through the constructive research of the manufacturers it will not be too far distant when this product will also be available.

## CONSTITUENTS OF AMERICAN SAGE BRUSH

The leaves and flower stalks of the American sage brush, *Artemisia tridentata*, collected near the mouth of Big Cottonwood Canyon, have been analyzed by C. R. Kinney and J. Sugihara (*J. Org. Chem.* 8:290, 1943). The leaves contain 10.5% of crude ether-soluble fat consisting of 2.2% of volatile oils, 6.7% glycerides (calculated as tripalmintin) and 1.6% waxes. They also contain 4.5% tannins and 0.3% alkaloids. The flower stalks had somewhat similar composition: 10.7% of fat consisting of 2.0% volatile oil, 6.8% glycerides and 1.9% waxes; also: 3.6% tannins and 0.4% alkaloids. To a great extent the bitter taste of sage may be attributed to the presence of a glucoside.

## OILS OF THE UMBELLIFERAE

On the basis of their odors, K. Bournot (Dent. Parfum.-Ztg. 28:37, 1942) divides the oils of umbelliferae into twelve classes and discusses their aromatic principles. Most of the oils have a spicy odor and taste. A common characteristic is the presence of coumarins, which are obtained chiefly in the extracted oils, rather than in the volatile oils.

## DETERMINING MENTHOL IN PEPPERMINT OIL

Since the menthol content of peppermint oil furnishes valuable information concerning the proper time to harvest mint for maximum menthol yield, L. J. Swift and M. H. Thornton (*Ind. & Eng. Chem.*, Anol. Ed. 15:422, 1943) developed a rapid viscometric method for the determination of free menthol in the oil. Devised primarily for use in the field, the equipment required is simple and inexpensive and can be used under conditions in which the chemical method is impracticable.

The procedure is based on the fact that peppermint oil is composed principally of menthol, menthyl esters, menthone and, hydrocarbons, all of which have approximately the same molecular weight and therefore might be expected to have about the same effect on the viscosity of the oil. Because menthol is an alcohol its hydroxyl group gives it an exalted viscosity when checked with the Ostwald pipet. However, since the viscosity of peppermint oil depends to a great extent upon the amount of menthol present, this property can be used to estimate the compound. When the percentage of free menthol was plotted against viscosity in seconds, regular curves were obtained, but natural oils containing free menthol yielded viscometric results higher than those obtained by chemical methods. Hence, a correction factor, which depends upon a turbidity designation, must be applied.

The viscometric method can be used only to determine free menthol and its application is limited to fresh or well-preserved natural oils of normal composition. Determinations can be made on very small samples (2 to 3 cc.) of oil and the sample can be recovered for other analyses.

## SOLID FRACTION OF AVOCADO PULP OIL

In an earlier paper, C. F. Asenjo and J. A. Goyco reported that, on standing, expressed whole avocado pulp oil deposited a solid white fraction amounting to nearly 8 per cent by weight of the original whole oil. Successive freezing and filtration, followed by washing in alcohol to remove adhering oil, yielded a snow-white, fat-like substance which in their latest paper (*J.A.Ph.A.* 32:259, 1943) these authors have given the name, "solid fraction of avocado pulp oil." Analysis of this fraction showed it to have the following characteristics:

| | |
|---|---|
| Melting point, °C. | 58.0 |
| Saponification no. | 212.2 |
| Iodine no. (Hanus) | 24.5 |
| Unsaponifiable matter, % | 0.5 |
| Saturated acids (corrected), % | 56.6 |

FROM THE BY-PRODUCTS OF WAR

# OF WAR COME THE "BUY" PRODUCTS OF PEACE

MANY a by-product of the war is being skillfully refashioned today to serve a useful peacetime role. For example, an important part of the work now engaging our perfume laboratories is that of testing dozens of war-born aromatics for their adaptability to post-war perfuming. And what is most encouraging is the fact that many of these new chemicals give every indication of being ideally suited to this use. On the basis of our studies which have already involved hundreds of tests, we can confidently assure extract and cosmetic manufacturers that, after the war, they will have a new and inspiringly different selection of fragrances to choose from—all of them ready to use, either as basic odors or modified, as needed, to meet their own particular fancy.

Right now, of course, these new, aromatic chemicals are available only in limited, experimental quantities. Meanwhile, pending their production for commercial use, we are continuing our experiments, carefully checking and time-testing their reactions in combination with other ingredients so that when Victory does come, a perfected, trouble-free series of distinctive, new odor bases will be immediately available for your post-war lines of perfumes, toiletries and cosmetics. You can definitely count upon these by-products of war as your most promising and profitable "buy" products of peace. Remember to consult us when that time comes.

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FACTORIES AT CLIFTON, N. J. AND SEILLANS (VAR) FRANCE

# A WORD ABOUT SPECIALISTS

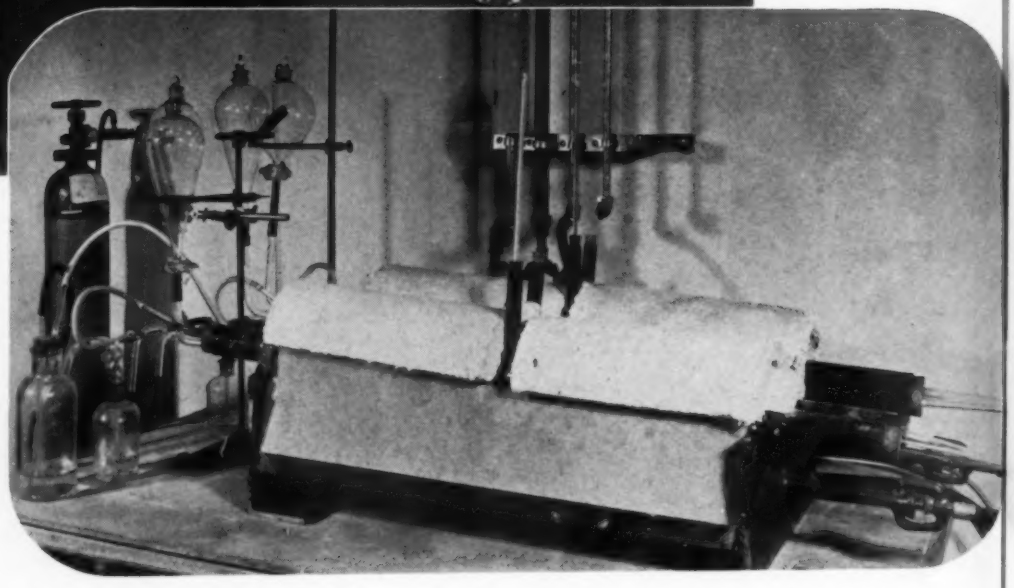
MAN'S problem, today, is not so much one of finding new scientific truths as it is of utilizing fully the great wealth of discoveries already made. In every field, be it medicine, business, agriculture, chemistry or any other, there exist great unexplored reservoirs of knowledge and of facts, in whose depths lie hidden and unsuspected treasure. The amazing mold derivative, *penicillin,* is a timely example. Known to medical science since the late 1920's, its miraculous therapeutic potency has been realized only in the light of comparatively recent investigations. Electronics is no new science, yet what wizardry are we to expect from the work of those specialists now delving into its strange, mysterious power!

There is no doubt that man's debt to the specialist—to those practitioners in every field who have wisely chosen some narrow niche in which to apply their abilities—is indeed a large one, for without their patient application to particular fields of investigation, the benefits inherent in existing facts and formulae might remain forever hidden in the notes and original recordings of their discoverers.

Our own reliance upon specialists intimately acquainted with the industries we supply has enabled us to render each a fuller and more helpful service. The work of our perfume specialists is a fitting example in that their present studies of numerous war-born chemicals give promise of many new and intriguing fragrances once these aromatics become commercially available. Thus, our debt — and the world's debt — to these unsung heroes of science and industry is a great one . . . and to them, we humbly doff our hats.

FRITZSCHE BROTHERS, Inc.

# BACKGROUND VALUES . . . a PART of the product, APART from the pr



*Photos, above: This is a part of the Manufacturing Research Laboratory at our Clifton plant. At the present time it is engaged, primarily, in the synthesis of materials once imported from abroad.*

*Right: The experimental apparatus shown here was improvised for the purpose of producing an important ingredient formerly manufactured only in Europe. Constituting the first step in a complex problem of synthesis, this work could not have been successfully undertaken but for our intimate knowledge of foreign production techniques.*

A SUPPLIER can possess no greater asset, today, than the ability to improvise . . . to draw upon past experience and ingenuity for solution to the problem of keeping his customers adequately supplied with materials necessary to their business. In fact, many manufacturers in this hard-hit field of ours owe their continued existence to this capacity of their suppliers for improvising methods and means of producing successful replacements for the once-plentiful floral essences and essential oils upon which they formerly relied.

Thanks to a long background of experience and the specialized training of our laboratory directors and staff personnel, our own record in this connection has been an enviable one. At least, we are led to think so by the many grateful expressions of satisfaction from customers who have benefitted by our efforts in their behalf. Perhaps, in a similar way, we can supply an answer to the unsolved replacement problems that are worrying *you*. May we try?

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FACTORIES AT CLIFTON, N. J. AND GRASSE (M.A.) FRANCE

Headquarters for
ESSENTIAL OILS · FLAVORS
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PERFUME RAW MATERIALS

| | |
|---|---|
| Unsaturated acids (corrected), % | 36.2 |
| Acid value | 6.9 |
| Reichert-Meissl no. | 2.6 |
| Polenske no. | 0.4 |

The melting point of this fat was rather high. The low percentage of unsaturated acids, as well as the low iodine number, indicated little unsaturation. This solid fraction became rancid very quickly, due to loss of antioxidants, present in the original oil, with the liquid fraction, leaving the solid fat devoid of its protective substances.

From their studies, Asenjo and Goyco concluded that this solid fraction of avocado pulp oil contained 56.6 per cent palmitic acid, 28.9 per cent oleic acid and 0.5 per cent of unsaponifiable matter.

## VOLATILE OIL OF PIPER MARGINATUM

According to E. H. de Nunez and C. H. Johnson (*J.A.Ph.A.* 32:234, 1943), *Piper marginatum* Jacq. (Fam. *Piperaceae*) is a Puerto Rican plant to which a number of medicinal properties have been attributed. These workers carried out investigations to determine the active constituents present in the leaves. The leaves, collected during October and December of 1940, were air-dried on screens in a well-ventilated room and then were ground to a No. 60 powder. The ground material was of a dark green color with a very aromatic odor and, on rubbing between the fingers, left a greasy film suggesting the presence of a fatty substance.

By treatment of a 20-Gm. sample in a Soxhlet apparatus with the solvents listed in succession the following amount of extractives were obtained:

| | |
|---|---|
| Petroleum benzine | 14.99% |
| Ether | 1.55% |
| Chloroform | 2.16% |
| Absolute alcohol | 10.47% |
| Dilute alcohol | 13.46% |
| Water | 6.00% |
| Total extractives | 48.63% |

Volatile oil determinations on a 50 Gm. portion showed that on the basis of the air-dried leaves the material contained 6.97% of volatile oil with the following properties:

| | |
|---|---|
| Color | colorless, turning yellow |
| Odor | sassafras-like |
| Taste | mint-like |
| Specific gravity, | 25° C. 1.0560 |
| Refractive index, | 20° C. 1.5475 |
| | 30° C. |
| Specific rotation, | $\frac{}{D}$ +0.52° |

On freezing to – 78° C. the oil slowly formed a thick sticky mass without showing the usual phenomena of congealing. A small amount of the air-dried fruits yielded 7.62% of volatile oil resembling that from the leaves.

A summation of the findings indicate that the dried leaves of *Piper marginatum* contain 6.97% of volatile oil, 0.28% of tannin, also reducing sugars, a phytosterol, a fat, an unknown substance resembling an alkaloid believed to be the active constituent, and very small quantities of some unidentified crystalline substances.

## UREA IN HAND CREAMS

In an article in the *Archives of Dermatology and Syphilology* (48:47, 1943) H. Rattner describes clinical tests showing the value of urea in skin creams. Since urea has found many uses in medicine and because it is nontoxic, nonirritating and inexpensive, Rattner felt that it may be an ideal ingredient of hand creams. Employing a preparation of 3 per cent of urea in a vanishing cream base, he made skin patch tests on 500 patients in The Cook County Hospital in Chicago. Although some reactions were expected from the ingredients of the base, not a single positive reaction was noted. He then distributed two jars of the hand cream, one with urea and the other without this chemical, to 225 members of the hospital personnel, with instructions to use one on each hand. Results showed that almost without exception the hands treated with the urea-containing cream developed a smoother, softer and even whiter skin than the hands to which the cream base alone was applied. Significantly, 90 per cent of the individuals taking part in the test stated their preference for the hand cream made with urea.

## CETYL ALCOHOL OINTMENT

In discussing the preparation of a cetyl alcohol ointment, F. A. J. Thiele (*Pharm Weekblad.* 79:354, 1942, through *Chem. Abst.* 37:5555, 1943) reported that he obtained good results with the following preparation:

| | |
|---|---|
| Cetyl alcohol | 5 |
| Anhydrous wool fat | 5 |
| Paraffin | 15 |
| White petrolatum | 50 |
| Liquid petrolatum | 30 |

These are mixed and made into an ointment. With water, the preparation yields a beautiful, white, creamy substance which, when applied to the skin, does not look oily and is completely absorbed. The preparation is also said to be especially good for cold cream.

## BRITISH HINT FOR COSMETIC CREAMS

A note in *Manufacturing Chemist* (14:266, 1943) points out that, because of the low proportion of oleic and palmitic esters present, cosmetic manufacturers have demanded that their stearin shall be triple pressed to insure as high a melting point as possible. Since glycerine is not available, face creams made with triple-pressed stearin show a tendency to dry up in the container, and it has been suggested that this might be overcome by using double-pressed and even single-pressed stearin. The presence of palmitates and oleates in these grades tends to prevent drying up.

## LAVANDULOL, TERPENE ALCOHOL FROM LAVENDER OIL

Swiss chemists H. Schinz and C. F. Seidel (*Helv. Chim. Acta.* 25:1572, 1942) have reported the extraction of a new terpene alcohol, lavandulol, $C_{10}H_{18}O$, from oil of lavender (*Lavandula vera*). It is similar to, and isomeric with, geraniol and closely resembles a synthetic alcohol described by Ruzicka in 1935.

The extraction was accomplished by hydrolysing the ester fraction, mainly acetate. The resulting alcohols were treated with phthalic anhydride to remove linalool. The unchanged residue of primary and secondary alcohols was next fractionated and purified through the allophanate, m.p. 117-8° C. This ester could be hydrolyzed back into lavandulol, which showed the following constants:

| | B.P. | *Lavandulol* | *Ruzicka's Alcohol* |
|---|---|---|---|
| Specific rotation | 94-5°C./13 mm. | –10.20 | —— racemic |
| S.G. | | 0.8785 | 0.8837 |
| Viscosity | | 1.4683 | 1.4711 |

Lavandulol forms an acetate, b.p. 61-3° C. under 0.3 mm. pressure, with an odor resenbling linalool acetate. The solid ester, 3.5-dinitrobenzoate, m.p. 59-60° C., darkens on exposure to light. Another solid ester is the anthraquinone-2-carboxylate, m.p. 62-3° C.

Lavandulol was hydrogenated with a platinum catalyst and added on 4H per mol. It cannot be satisfactorily oxidized with ozone or potassium permanganate. Its structure has been elucidated by J. P. Bourquin and is $CH_3.C(=CH_2).CH(CH_2OH).CH_2.CH{:}C(CH_3)_2$.

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Anhydrous Hydrous
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ROWAG

# BEESWAX

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# The COMPOUNDER'S CORNER

## ULTRASONIC WAVES

According to K. Sollner, in a paper delivered before the Pittsburgh meeting of the A.C.S., ultrasonic waves have strange effects on mixtures and solutions and may eventually become a useful tool for the chemist. These sound waves, far too high pitched to be audible to the human ear, are started by crystals set into rapid pulsation by high-frequency electric currents and have rates up to a million or more per second. The effects of these ultrasonic waves have been studied by a number of workers and the waves have been used to make permanent emulsions of varied materials, such as oil and water and even water and mercury. Indeed, one investigator used these waves to homogenize milk, but the process has not yet been commercialized. The waves also disperse exceedingly fine metallic particles through a suspending medium and Sollner has suggested their use in this manner to produce special, ultra-fine-grained photographic emulsions—*Science*, Supplement, Sept. 17, 1943.

## GERMAN COSMETIC PATENTS

For very obvious reasons, information on newer German methods and procedures in the field of cosmetics is difficult to obtain. Therefore, the following abstracts of German patents should be of definite interest.

### Cosmetic Depilatory

Patent 723,020, issued to F. Giloy, describes a cosmetic depilatory containing liquid animal wax of natural origin. The wax is freed of substances which solidify in the cold and of fatty acid glycerides by distillation or other suitable process.

### Light-Absorbing Skin Powder

To make special skin powders, patent 722,425, issued to H. Muller, specifies that ultraviolet light-absorbing substances be dissolved in a relatively small quantity of fats, oils or fatty substances. The solution thus made is then spread in a finely subdivided state, e.g. by atomizing, onto the powder base.

### Cosmetic Preparation

Patent 722,596, issued to Chemische Fabrik Grunau A.-G., describes a cosmetic preparation consisting of an aqueous solution of triethanolamine salts of condensation products of higher fatty acids or resin acids and proteinaceous materials or high-molecule products of protein degradation.

### Astringent Skin Cleanser

According to patent 706,050, issued to J. Pfanner, an astringent skin cleanser is compounded of alkali salts of sulfuric acid esters of monohydric, aliphatic alcohols with 12 to 20 carbon atoms, a greasy substance and a vitamin. To this composition is added free metaphosphoric acid or hexametaphosphoric acid and a hexametaphosphate.

## PROTECTING SKIN FROM HAIR DYES

In a patented process for protecting the skin from hair dyes of the so-called oxidation type, the scalp is first rinsed with a solution containing a glucide and alum, an alkali metal or an alkaline earth metal chloride, and an oxidizing agent such as hydrogen peroxide. Subsequently there is applied to the hair a dye solution of the so-called oxidation type; the dye solution containing protecting compounds as in the first solution. This patent, U. S. 2,313,027, is now vested in the Alien Property Custodian.

## ADRENALINE-EPHEDRINE SOLUTION FOR ASTHMA

Solutions of antispasmodic drugs used as sprays by means of atomizers or inhalers have become exceedingly popular for the treatment and relief of asthma. In preparing such solutions, R. Wilcox, writing in the *Pharmaceutical Journal* (151:69, 1943), states that three important factors must be taken into consideration: (1) The rapidity of absorption in order to effect instant relief, together with prolongation of the physiological action; (2) the stability of the solution; and, (3) the keeping properties of the solution.

To satisfy the first consideration a mixture of adrenaline and ephedrine appears ideal; the adrenaline, being rapidly absorbed gives immediate relief, while the more slowly absorbed ephedrine would continue the relief after the adrenaline had ceased to be effective. Because adrenaline is unstable in neutral or alkaline solutions, the final preparation should have a pH value on the acid side. Aqueous solutions are unsuitable because they permit the development of fungoid growths. To overcome this difficulty Wilcox employed the effective preservative action of chlorbutol in an aqueous-glycerine vehicle. Since both chlorbutol and glycerine contribute desirable properties to the solution, this addition also produced more effective relief from attack in some cases. Inclusion of other drugs heightened the efficiency of the solution. Atropine sulfate was added not only because it gives an antispasmodic effect and stimulates the respiratory center, but also because it helps to diminish bronchial secretions. Hyoscine hydrobromide was included as a sedative to overcome nervous symptoms and permit sleep.

From these considerations the following solution was evolved and provides a preparation which is effective in the treatment of asthma by the spray method:

Atropine sulfate..... 0.10 Gm.

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| | |
|---|---|
| Sol. adrenaline hydrochloride (1 in 100) | 12.50 cc. |
| Ephedrine hydrochloride | 0.50 Gm. |
| Hyoscine hydrobromide | 0.025 Gm. |
| Chlorbutol | 0.25 Gm. |
| Glycerine | 12.50 cc. |
| Distilled water, to make | 100.00 cc. |

This solution is physiologically stable, nor does it deteriorate on keeping. It has an acid reaction and no development of a reddish-brown color was observed over a period of three months when the solution was stored in well-filled dark containers.

## ABSORPTION FROM OINTMENT BASES

Experimentation in the field of absorption from ointment bases has been somewhat unsatisfactory and inconclusive for many reasons, but largely because of the difficulty of locating fatty materials and tracer substances in the tissues. Many methods have been used in attempts to show absorption, but G. W. Johnston and C. O. Lee (*J.A.Ph.A.* 32:278, 1943) felt that radioactive substances might give a better means for testing such absorption. In their indicative experimental work, these investigators selected radioactive sodium chloride as the tracer substance; the salt being activated in the Purdue University cyclotron. The detection of the radioactive substance was accomplished by the use of a Geiger counter.

Five typical ointment bases were tested. These included: a hydrophile ointment base of the cholesterol type, anhydrous lanolin, white petrolatum, lard, and, a "washable" cetyl alcohol base. The radioactive sodium chloride was incorporated into these bases, which were applied to the inner surface of the upper arm and well rubbed into the skin. At definite intervals each subject was tested for radioactivity by means of the counter device. After absorption had occurred, urine samples were collected at regular intervals, dried, and measured for activity.

Comparison of results showed that of all the bases used, anhydrous lanolin gave the best and most consistent results. While quantities absorbed varied greatly with the subjects, in all cases there was a sharp rise in counts, followed by a gradual decrease in activity, the results being very consistent on the basis of the readings.

Lard appeared to give the next best results, although there was not the consistency in the readings that existed with lanolin, nor were the counts as high.

Of the other three bases used, the hydrophile ointment base and the cetyl alcohol base appeared to be about equal, although both showed so much variation and fluctuation that any comparison is difficult. White petrolatum appeared to give slightly lower results than the other two.

In all cases, the readings obtained at the beginning of the experiment, soon after the application of the ointments, were the greatest, suggesting that the mechanical action of rubbing probably forces much of the ointment into the pores and hair follicles, thus giving higher readings than those obtained later when such action does not occur.

In all of the experiments, the result from the urine specimens were much more uniform for each base. Hence the authors feel that a study based on urine readings, collecting and measuring entire outputs for the duration of an experiment, would give more satisfactory and more quantitative results than hand readings.

Although these experiments are of a preliminary nature to illustrate the method and its possibilities, from the results obtained, it would seem that there can be no doubt that absorption of radioactive sodium chloride does occur through unbroken skin.

## ISOPROPYL ALCOHOL IN LINIMENTS

The ethyl alcohol situation being what it is, R. C. Clouse and M. W. Bamford (*Am. J. Pharm.* 115:261, 1943) experimented on the use of isopropyl alcohol in the manufacture of the official Liniment of Soft Soap and Liniment of Camphor and Soap. Evidence of the safety of its use and its effectiveness in skin sterilization plus its solvent properties seem to justify the use of isopropyl alcohol in these preparations.

Since there is much objection to the odor of oil of cedar which is used in the new official formula for Liniment of Soft Soap, these workers substituted oil of bay, and since this did not mask the odor of the isopropyl alcohol to their satisfaction they also added two per cent of ether. In addition to improving the odor, this addition enhances the solvent, detergent and disinfectant properties of the preparation.

The two formulas evolved by Clouse and Bamford are as follows:

LINIMENT OF SOFT SOAP

| | |
|---|---|
| Medicinal Soft Soap | 650 Gm. |
| Oil of Bay | 10 cc. |
| Ethyl Oxide | 20 cc. |
| Isopropyl Alcohol sufficient to make | 1000 cc. |

LINIMENT OF CAMPHOR AND SOAP

| | |
|---|---|
| Hard Soap, dried and granulated or powdered | 60 Gm. |
| Camphor, in small pieces | 45 Gm. |
| Oil of Rosemary | 10 cc. |
| Isopropyl Alcohol | 700 cc. |
| Distilled Water sufficient to make | 1000 cc. |

For both formulas the procedure is the same as for the official preparations.

The Liniment of Camphor and Soap makes a satisfactory Chloroform Liniment.

## CIGARETTE PAPER WOUND DRESSING

According to a note in *Foreign Commerce Weekly* for September 11, 1943, cigarette papers have been used in British West Africa as dressings for open wounds and ulcers. As originally described in a medical journal, the process includes cleaning the affected area, applying sulfanilamide powder, and covering with tissue for which purpose cigarette papers have proved suitable. Obvious advantages are that this requires less change of dressing and allows for easy and frequent inspection of the wound. In addition, the discharge is reportedly much less than with ordinary gauze bandage.

Of course, one cannot overlook the fact that paper bandages were used in the last war, and who hasn't used a piece of tissue to stop bleeding or to protect a wound.

## PENICILLIN CRYSTALLIZED AS SODIUM SALT

The crystallization of penicillin in the form of a pure sodium salt was recently announced by C. H. Palmer of E. R. Squibb and Sons. This accomplishment paves the way for the chemical synthesis of the drug and it is to be hoped that through degradation studies the structural formula of penicillin may be ascertained. This is essential if this potent agent is to be made synthetically and hence made available in larger quantities for the treatment of infectious diseases.

At the same time, it was also announced that a new strain of penicillin, known as the Squibb strain, had been developed. This new strain is said to be more productive and to give better yields of penicillin that the strains heretofore available.

## Are you having any trouble with your SOAP?

Over 40 years ago, the first Neutral Powdered White Soap was introduced to the manufacture of cosmetics and proprietary remedies by the House of Hopkins. Though perfected through the years by various technical improvements, Hopkins' Rajah Brand Neutral Powdered White Soap is today made *under the same original formula and process.* Not one, but many, qualities account for this remarkable fact. For example, Hopkins' Neutral Powdered White Soap gives you—

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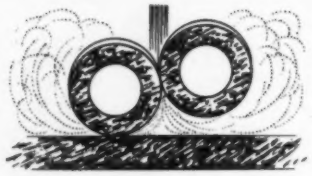

*To insure against discoloration and rancidity which usually develop from excessive heat in the process of milling, Hopkins' Neutral Powdered White Soap is milled between slow geared chasers (only 70 rpm). This method is slower and more painstaking, yet our prices compare favorably with lesser qualities, due to our large production.*

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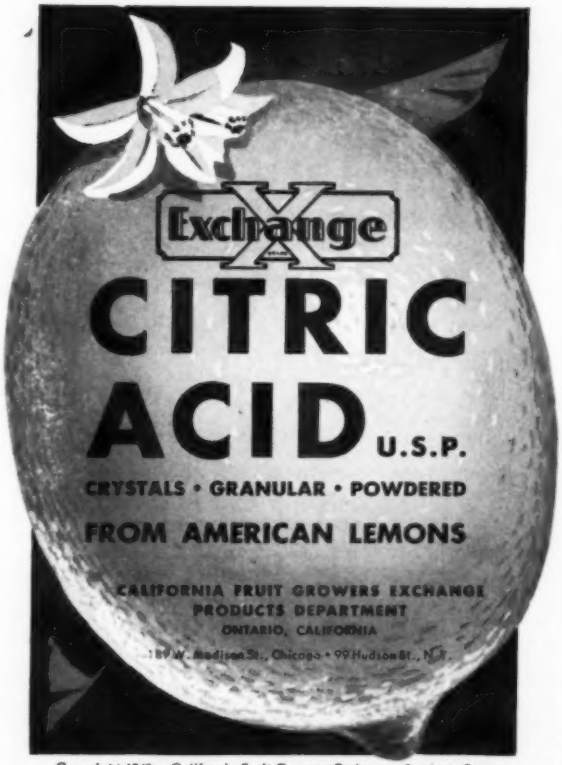


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## PENICILLIN INOCULATED DRESSING

Concentrated and purified penicillin, such as is used intravenously, is practically unobtainable for civilian use. However, as pointed out by G. H. Robinson and J. E. Wallace (*Science* 98:329, 1943), there are conditions (e.g. wounds, furunculosis, sinus infections, gonorrhea and other infections of the skin or mucous membranes) in which it is possible to use penicillin of less potency. Since continuous exposure of the infecting organism to the penicillin is essential, it seemed to these workers that the substance might be produced in contact with the lesion in treating surface infections. A dressing 5 cm. x 5 cm. composed of eight layers of gauze was placed in a Petri dish and saturated with a medium containing 1 per cent yeast extract, 2 per cent dextrose, 2 per cent corn starch and 2 per cent glycerine. This was autoclaved, inoculated with penicillium and allowed to develop at room temperature. *In vitro* tests showed that a fair amount of penicillin is produced over a period of 4 or 5 days and that a bacteriostatic condition would be maintained at the point of contact with the lesion.

Clinical application of the penicillin inoculated gauze dressings, together with crude liquid penicillin, was made on a small series of patients who had not been relieved by any other form of therapy. Results in this preliminary work were very satisfactory. Other patients were still under treatment with the penicillin inoculated dressings at the time of the report, but improvement had already been observed.

## TREATMENT OF SURFACE BURNS

In a symposium on the management of the Coconut Grove burns at the Massachusetts General Hospital published in the *Annals of Surgery* (117:801-976, 1943), O. Cope reported that a feature of the treatment of 39 burned victims consisted in omission of debridement and cleansing. Gauze strips saturated with a bland ointment (boric acid) were applied to burned surfaces and kept in place with pressure bandages. Two Gm. of sodium sulfadiazine was injected intravenously through the cannula or needle already in place for plasma transfusion. The dressings were not changed until the fifth to tenth day, when boric acid ointment gauze was reapplied. A major point in favor of nondebridement of the burn is the availability to the wound of chemotherapeutic agents administered internally. Absorption of sulfonamides applied locally to the debrided burn surface may be rapid and irregular and, if the burn surface is large, toxic levels of the drugs in the body fluids may be reached. The levels of the sulfonamide drugs in the body fluids are more easily controlled by internal administration. The advantage of the treatment lies in its simplicity. The available personnel is freed for the care of shock and anoxia, yet the surface wounds need not be neglected.

## CHLOROPHYLL FOR ULCERS

From time to time reports appear in the medical literature concerning the value of chlorophyll in the local treatment of various external conditions. To these growing data may be added the studies of E. Gahan, P. R. Kline and T. H. Finkle published in the *Archives of Dermatology and Syphilology* (47:849, 1943). These workers employed chlorophyll in two forms; as an ointment or as an aqueous suspension, in the treatment of 25 patients with ulcers of various origins. The ointment consisted of oil soluble derivatives of chlorophyll mixed with hydrous wool fat in the proportion of 1 to 28. The aqueous solution was made by dissolving 2 Gm. of a water soluble derivative of chlorophyll in a liter of distilled isotanic solution of sodium chloride. The ointment was used topically; the solution was used for wet dressings for ulcers which were surrounded by severe inflammatory zones. Of the 25 patients treated with these chlorophyll preparations, 19 responded favorably to this type of local therapy. From the results obtained, chlorophyll appears to have a stimulating effect on the supportive tissues. In some cases there was a rapid production of granulation tissue in torpid ulcers.

## VITAMIN C FOR HYPERTENSION

Blood pressure studies made by N. S. Davis and E. F. Poser (*Clin. Med.* 50:152, 1943) suggested that essential hypertension may be due to chronic minimal dietary deficiencies. Working on this theory, these investigators administered ascorbic acid in doses of 333 mg. three times per day to patients with high or rising blood pressures. It was found that the administration of one gram of vitamin C daily to patients, even those with well-established hypertension, caused a marked lowering of blood pressure levels together with subjective relief in many cases.

## UREA-SULFATHIAZOLE MIXTURES FOR DERMATOSES

In a paper published in *Minnesota Medicine* (26:276, 1943), E. Strakosch and W. Clark report that the results of treatment with urea-sulfathiazole mixtures were compared to those with sulfathiazole alone in 28 cases of infected dermatoses and it was found that results from urea-sulfathiazole therapy were better. Urea is advantageous due to its property of removing necrotic tissue by lytic action; its bacteriolytic action; its deodorizing effect; and its

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ability to produce hyperemia. It is also thought to increase the solubility of the sulfonamides, to enhance sulfonamide bacteriostasis, to antagonize sulfonamide inhibitors, and to remove "fastness" of sulfonamide-resistant organisms. The authors have confirmed the observations of other investigators that a strong solution of urea is definitely irritating in action and they are of the opinion that such urea therapy should be discontinued as soon as fresh, uninfected granulation tissue makes its appearance. Animal experiments have shown that strong urea solution suppresses epithelization and stimulates granulation in uninfected skin wounds.

## FLAVICIN, A NEW ANTIBACTERIAL FROM MOLD

While studying the production of penicillin, M. T. Bush and A. Goth (*J. Pharm. & Exper. Therap.* 78:197, 1943) isolated a mold belonging to the Aspergillus flavus group which produced a powerful antibacterial substance. This mold appeared as a contaminant on one of their cultures of Penicillium notatum. It was able to dissolve Staphylococcus aureus and Staphylococcus albus. On further study the authors found that the aspergillus released in the culture medium an inhibitory substance which was active against a large number of bacterial species. They have succeeded in partially purifying this substance to such an extent that its activity per milligram is comparable to that of "therapeutic" penicillin against gram positive cocci. Flavicin, like penicillin, is a water soluble and ether soluble organic acid which has a powerful antibacterial activity. It differs from gramicidin, tryrocidin and penicillin B, which are protein or polypeptide in nature. Flavicin resembles penicillin in another respect: it is unstable in an acid environment, particularly on shaking with air. Although both penicillin and flavicin inhibit especially gram positive cocci, flavicin is more active against *Corynebacterium diphtheriae, Bacillus anthracis, Staphylococcus albus* and *Brucella abortus* than is penicillin. The available evidence suggests that flavicin is a powerful antibacterial agent against a wide variety of bacterial species.

## UREA FOR HEADACHES

The value of urea for the treatment of severe headaches of the migraine type was the result of an accidental discovery made about nine years ago, according to J. A. Brown (*Brit. Med. J.* 2:201, 1943). At that time, a patient was undergoing a complete diagnostic examination to determine the cause of severe headaches. As part of the check-up, blood tests for urea concentration were made, a control dose of 15 Gm. of urea being given as part of the test. Shortly after this urea administration the patient became free of headaches for the first time in many weeks. To determine whether the urea was responsible for this definite relief, the patient was given 20 Gm. doses of urea daily. Headaches were banished and the patient was discharged with the advice that he continue taking urea. There have been no recurrences since that time.

Other patients have been given similar treatment and all with the same results, Brown reports. No toxic or secondary effects have been noted from this therapy. It is suggested that the diuretic effect of urea has an action on the sodium chloride metabolism of the body. The breakdown of this metabolism has been suggested as the cause of migraine, and it is thought that the urea corrects the disturbed metabolism.

## ELASTIC SULFA BANDAGE

According to an item in the September 1942 issue of *Manufacturing Chemist*, a new methalose gauze dressing promises better first-aid treatment for burns and wounds. Sulfanilamide and sulfathiazole are dissolved in propylene glycol and then added to a solution of alkyl cellulose. Sprayed on loose mesh gauze, this mixture makes a durable elastic pressure bandage. Adhering readily to injured areas, the gauze tends to prevent loss of fluid and plasma proteins. The dressing can be removed at any time by soaking in water or salt solution.

## ANTISEPTICS FOR RECENT WOUNDS

Antiseptics for the suppression of infection in recent wounds appear to have fallen into disrepute. However, T. Beath in *Surgery* (13:667, 1943) believes that it is possible to find chemical substances which will meet the requirements. In his opinion, an effective antiseptic for recent wounds should have the following characteristics:

1. In the strength used, if diluted at least two to four times, it should kill germs.

2. In the presence of serum, blood, crushed tissue and dirt, it should retain most of its germicidal ability.

3. The essential chemical should not be inactivated by tissue juices or blood.

4. It should not coagulate protein and form a barrier over microscopic pockets which prevent deeper penetration of the antiseptic.

5. It should not interfere with the ability of leucocytes and tissues to deal with organisms not killed by the antiseptic.

6. It should penetrate all membranes and kill organisms that have already invaded the tissues.

7. It should be active against all bacteria.

8. It should be inexpensive.

9. It should be of proved clinical worth.

Hand wounds were chosen for studying the several antiseptics. Results in 100 cases of such wounds indicated that 5 per cent dettol or 1:1000 proflavine sulfate were the antiseptics of choice. However, Beath stresses that the use of such antiseptics is not intended to supplant cleansing or debridement of nonviable tissue, or the local use of sulfonamides.

## BACTERICIDAL ACTION OF ESTROGENS

Having observed that diethylstilbestrol possesses bactericidal activity to some degree, G. H. Faulkner (*Lancet* 2:38, 1943) examined other substances possessing estrogenic properties to determine whether there was any correlation between the estrogenic and the bactericidal activities. Estradiol, estrone, diethylstilbestrol, hexestrol and diethoxytriphenylbromoethylene were investigated. The organisms used were all recently isolated from material sent to the laboratory for bacteriologic investigation.

From these studies, Faulkner found that diethylstilbestrol is bactericidal and in lesser concentrations bacteriostatic to gram positive cocci, Corynebacterium diphtheriae and Neisseria catarrhalis. No inhibitory action was noted on the gram negative bacilli. The minimal lethal concentration varies somehwat between these organisms, but in all those recorded it lies between 1:5,000 and 1:500,000. Tubercle bacilli were killed by incubation in vitro with diethylstilbestrol 1:5,000. Hexestrol also possesses bactericidal properties. Other estrogenic substances (estrone, estradiol and diethoxytriphenylbromoethylene) have not been found to have bactericidal action.

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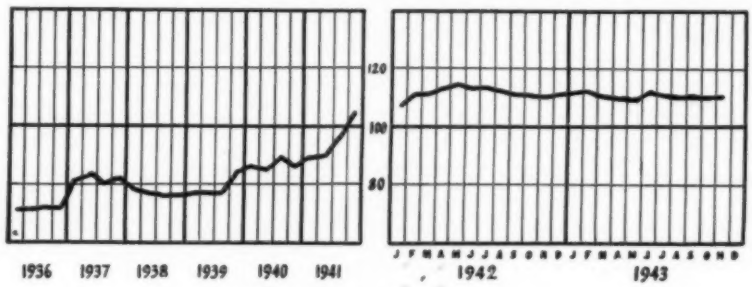
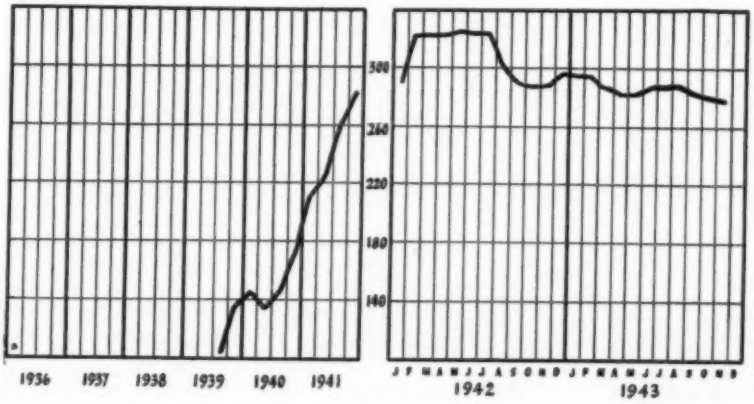
**25 Cosmetic Raw Materials—Unweighted Price Index. 1926=100.**




The cosmetic raw materials index remained without change at 113.2. Menthol was still a subject of considerable discussion. Some menthol is arriving from Brazil, but as arrivals have been for specific accounts the spot market has profited little or not at all. Alcohol was another item in this group which showed little encouragement to consumers. Government demand is stupendous and increasing.

**15 Botanicals—Weighted Price Index. 1926=100.**




The botanicals index declined fractionally to 282.1 from the previous 282.9. Belladonna was lower at $1.20; previous price $1.30 per pound. The effect of the removal of price ceilings from dealers is not expected to increase the cost of packaged goods. It can be pointed out that dealers have concerned themselves with reducing prices whenever possible and avoiding advances whenever this could be avoided.

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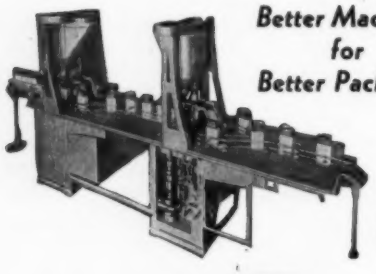

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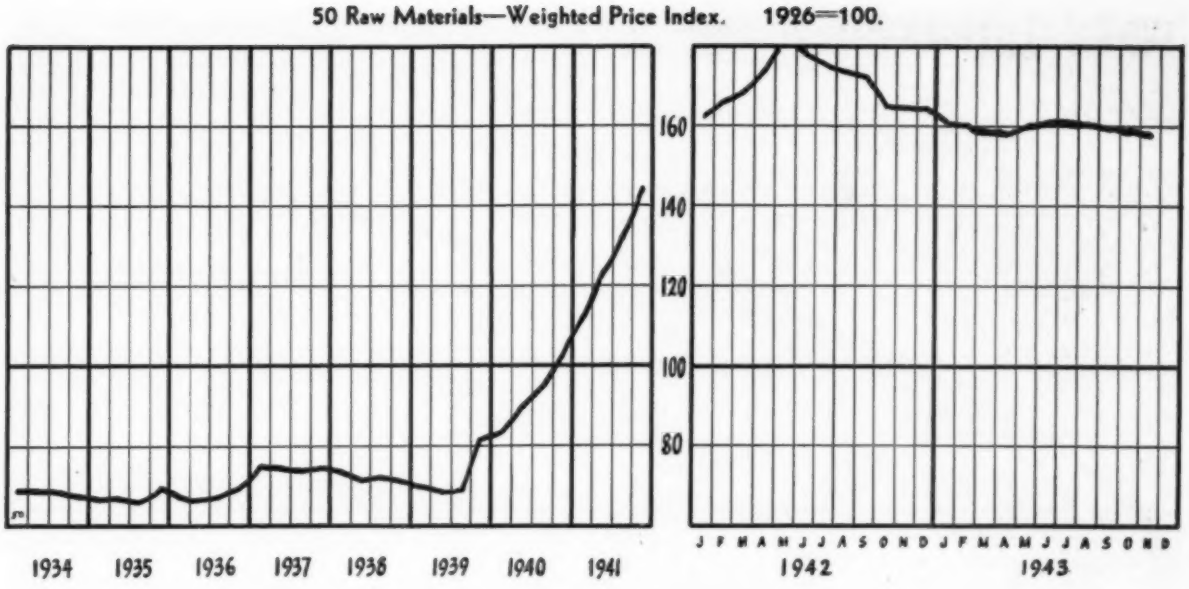


The price index of fifty commodities for October, 1943, declined fractionally to 158.1 from the previous 158.5. Of outstanding importance was the development in GMPR which removed botanical drugs from the list of items under price control. It is generally hoped that removal of restrictions on dealers will create a more liberal supply position correcting a condition whereby these supply houses often were confronted by spot prices below cost of replacement.

• Prices quoted in this section were current on the first of this month.

## PEPPERMINT OIL

A group of large peppermint oil consumers, having offered to stay out of the market for the balance of this year, materially aided in correcting a critical supply situation in this essential oil, according to the War Food Administration reporting on a meeting of peppermint oil users with officials.

Meeting on a plan of the WFA to place peppermint oil under allocation because of short supplies, officials said that there are only 500,000 pounds of the oil now in the hands of dealers and producers, and with the offer of the large users to make no further purchases from this year's crop, the problem of equitably distributing the available supply has been brought that much nearer a solution.

Estimated requirements of this essential oil, as adjusted by the attending industry members which form themselves in the Industrial Oil of Peppermint Users Advisory Committee, totaled 1,250,000 pounds. Inasmuch as certain of the users will stay out of the market, the estimated requirements for this year's crop is reduced by approximately 450,000 pounds, thereby leaving a balance of 800,000 pounds that must be filled from an estimated supply of 500,000 pounds, it was stated.

No indication was given by officials as to how this is to be divided. Effective September 13, manufacturers, druggists and others who used oil of peppermint in manufacture of any product in 1941, were limited to the use of the equivalent of 30 per cent of the quantity used in the corresponding period of 1941. This is a temporary limitation, however, which will be advanced as soon as adequate data on inventories is obtained, it was explained.

Industry representatives concurred with WFA on the need for a limitation on users of the oil, it was added.

With an eye to the future, industry representatives urged that action be taken to help encourage farmers to plant a sufficient acreage of peppermint for 1944 and said that some price adjustments were needed to meet increasing cost of production.

## BOIS DE ROSE

Advices received here indicate that an agreement has been reached between the United States and the Brazilian Government in connection with future bois de rose supplies. Under the arrangement the matter of exports will be under the control of the Consorcio, an organization composed of exporters and producers, it is said. Prices will also be established by the Consorcio, it is learned.

## AGAR

The production of agar on the Pacific Coast and careful use of the quantities available have given America enough agar for the essential bacteriological media needed in medical laboratories. This jelly-like substance made from seaweed was a Japanese product before the war, but agar of bacteriological grade is now being successfully extracted from seaweed of our Pacific Coast. A WPB limitation order prevents the use of the limited supply for industrial, food or therapeutic purposes. Agar industry on the Atlantic Coast is getting underway, but so far its product is not suitable for bacteriological use.

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## GLYCERINE

The glycerine picture continues to improve from the standpoint of available supplies, and in view of present conditions, trade factors are looking forward to a further curb on restrictions governing the use of this important chemical over the final weeks of the year.

It is estimated that production of glycerine on an absolute basis from domestic sources will amount to 165,000,000 pounds and with estimated imports amounting to 10,000,000 pounds, total quantity available will, it is believed, reach 175,000,000 pounds, or some 35,000,000 pounds more than earlier estimates.

Glycerine consumption under allocation has been running at between 10,000,000 to 12,000,000 pounds a month. Recent shipments of glycerine have arrived from the Argentine and Canada.

## WAXES

Production of carnauba wax in the State of Ceara, Brazil, came to 2,050,778 kilograms in 1942, or 42 per cent less than in 1941, and 42 per cent less than the 1937-41 yearly average. The demand for the wax, however, was so strong that, despite lower production, its total value in 1942 was 52,336,870.74 cruzeiros (official rate, 16.5 cruzeiros equal 1 dollar), only 42,668 cruzeiros less than the year before, but 23 per cent more than the 1937-41 average value.

The annual production of beeswax in the State of Ceara, Brazil, averages about 15 tons yearly. Most of this goes to South Brazil, since the price there is more than twice that offered by the United States.

## CASTOR OIL

With distribution control raised for the next three months, it is believed that there will be a substantial rise in consumption of the excellent production possible now that raw material stocks have been built up. Further importations of beans totaled 3,196,200 pounds, bringing the total since January 1 last to 211,328,550 pounds. Also 306 drums and 207,000 kilos of oil came in.

Bureau of the Census reports on factory operations, and also on factory and warehouse stocks show the following figures for August: Production, No. 1 crude, 7,818,000 pounds; consumption, 2,547,000 pounds; stocks, 30,467,000 pounds; No. 3 crude, production, 2,451,000 pounds; consumption, 2,504,000 pounds; stocks, 5,172,000 pounds; dehydrated, production, 609,000 pounds; consumption, 829,000 pounds; stocks, 7,198,000 pounds.

## ALCOHOL

Alcohol production during 1944 will be 50,000,000 gallons less than actual war needs, according to a WPB report to the Senate Agriculture Subcommittee. Requirements are estimated as 640,000,000 gallons and production as 590,000,000; 90,000,000, to 100,000,000 gallons will make up the stockpile at the end of 1943.

Imports of 1,500,000 proof gallons of beverage alcohol in the form of gin and rum come in annually from the Caribbean, and about 14,000,000 gallons of industrial alcohol are being imported from Canada and Mexico during 1943, but about 60,000,000 gallons of 190 proof industrial alcohol are being exported under Lend-Lease.

In view of the grain situation, active steps are being taken to import blackstrap molasses as well as invert molasses from the Caribbean for the manufacture of alcohol in this country. The War Shipping Administration has advised WPB that transportation will be made available to bring in large quantities of this molasses, although transportation of petroleum products takes priority. However, failure to agree on price is reported to have prevented the Defense Supplies Corp. from arranging with Cuba for acquisition of its 1944 molasses. Instead, it is being converted into beverage alcohol in Cuba.

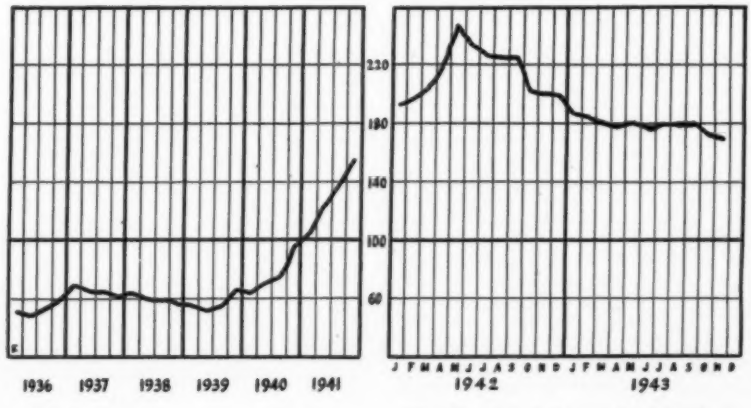
Alcohol needs for munitions and in the synthetic rubber industry are so large that whiskey distilling in the U. S. is not likely to be resumed for the duration.

Production of high-proof alcohol has expanded to such a rate that output by June, 1944, will be five times that of a year ago, the National Farm Chemurgic Council was told at its fourth conference. Half of this will come from converted whiskey distilleries. During the first six months of 1943 molasses comprised 17.2 per cent of the material used, compared with 64.3 per cent before the war, while grains accounted for 67.5 per cent, compared with 12.7 per cent in 1940.

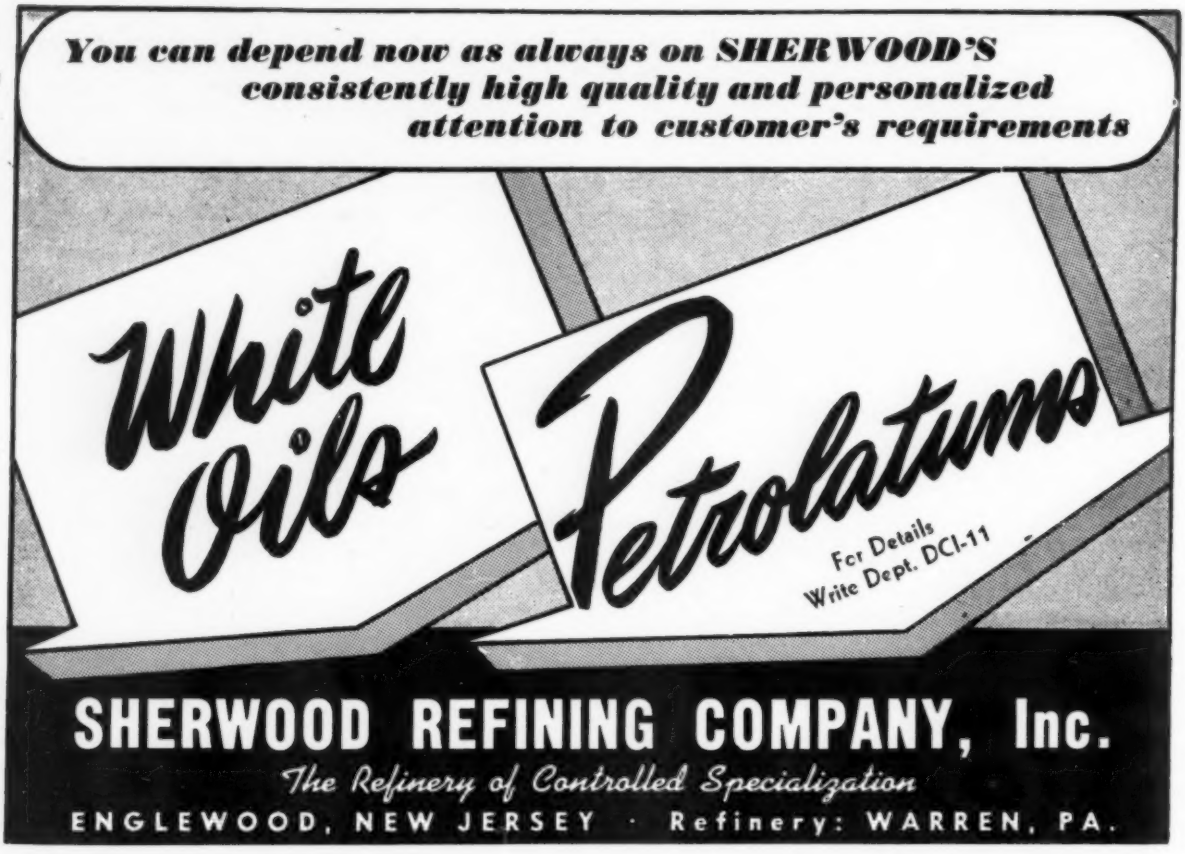
## MENTHOL

Arrivals of moderate quantities of natural menthol continue to come here without appearing on the open market for resale. It is inferred that the goods have been sold into consumption prior to arrival and the quantities forthcoming from abroad are insufficient to allow creation of a stockpile by the importers.

**15 Essential Oils—Weighted Price Index. 1926=100.**




The essential oil index declined fractionally to 181.0 from the previous 181.7. Bois de Rose was lower at $4.75, citronella oil declined to 95 cents. Peppermint oil continued to make headlines. Supplies are not adequate to meet consumer demands. Large consumers have agreed to buy little from the new crop to help the situation along.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## IPECAC

Ipecac, an imported dried root used in medicine, and its derivative, emetine, were placed under allocation by the War Production Board through issuance of Allocation Order M-350, effective November 1. Ipecac is imported principally from Brazil, Nicaragua and Costa Rica.

Order M-350 provides that no supplier shall deliver or use ipecac or emetine except as specifically authorized in writing by WPB, or under the exemptions allowed by the order. After November 1 a supplier must obtain from his customer a certificate of intended use and then must file Form WPB-2947 (formerly PD-602) with WPB in seeking authorization to deliver. The customer's certificate must be received by the supplier by the 15th of the month preceding that in which delivery is to be made.

Exemption from authorization is made for delivery by any supplier to any person in any month of 25 pounds or less of ipecac, or one ounce or less of emetine. Delivery by any person to any other person for compounding into standard dosage forms for medicinal purposes pursuant to toll agreement also is excepted from authorization.

## CRUDE DRUGS

All sales of domestic botanical drugs, wild or cultivated, crude or milled, were removed from price control by the Office of Price Administration because of the confusion resulting from partial control.

Since September, 1942, sales by growers and collectors of botanical drugs—which include a wide assortment of roots, herbs, leaves, barks, seeds, flowers and berries, used in the manufacture of proprietary medicines and pharmaceutical preparations—have been free from price control. However, sales by community depots and local dealers and by large botanical drug houses were subject to regulation

The price trends during the past year were carefully surveyed by OPA. It found that despite restricted imports, labor shortages and the lack of ceilings over growers' and collectors' prices, dealers' prices on the whole, although varying from week to week, have been somewhat below the March, 1942, level. In some cases dealers resold at prices below acquisition cost.

OPA stated that the exemption will not increase the price of packaged drugs, but will help toward maintaining the supply of these products vital to national health.

About $2,000,000 worth of domestic output is sold annually to packaged drug manufacturers and producers of proprietary medicines by the large drug houses.

## SOAP BARK

Exports of quillay soapbark from Chile during 1942 were 1,056 tons, 23 per cent less than in the preceding year; a 70 per cent decrease was noted during the first half of 1943 compared with the first half of 1942. The United States is one of Chile's greatest markets for quillay, which is used in wartime as a cleanser for precision instruments and lenses and in peacetime as a shampoo base.

There are probably more than 100,000 quillay trees in Chile and most of them are in central and northern regions. At present the industry is receiving little encouragement because of the difficulty of shipping, and the closing of European markets.

## NUX VOMICA

Normal production of nux vomica in India is about 1,500 long tons per year, but the 1942-43 crop, which appeared on the market in February 1943, was below this level. Since nux-vomica trees have been cut to supplement a shortage of timber and firewood, next year's crop, also, is expected to be small.

About 600 long tons of nux vomica are on hand; 58 per cent of this is in South India, along the Malabar coast, and 42 per cent is in the Calcutta area.

Because the United States and the United Kingdom, usually strong buyers, have slackened demand, the price of nux vomica has dropped during the first half of 1943.

## MERCURY

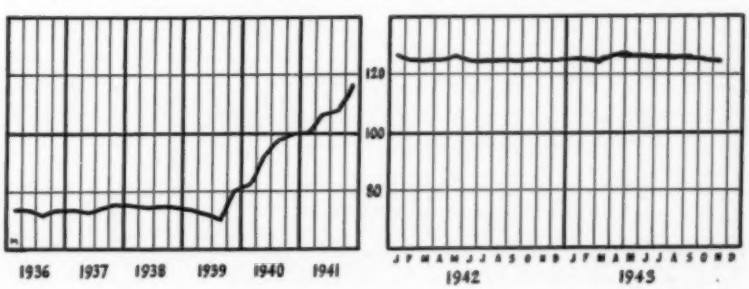
The spot market for mercury has declined slightly to a basis ranging from $195 to $197 per flask. The supply situation appears to be in good shape and consumption is expected to be well cared for even though production goes into its usual Winter slump on the Pacific Coast.

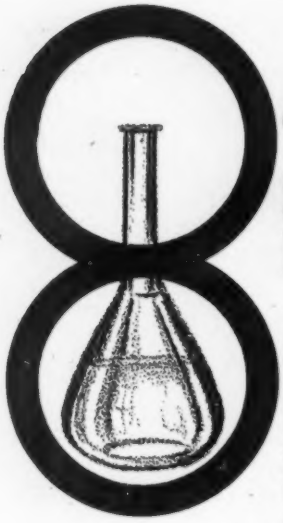
Mercury producers on the Pacific Coast report a bearish outlook under present conditions, particularly because of the government's position with respect to further purchasing. This metal is apparently the only one now in fair abundance that can be purchased readily in the open market and the feeling is that prices are due for additional softening due to lack of government support.

To offset the bearish outlook, it must be considered that any sharp declines will materially affect production in many small California marginal mines and production would then be materially curtailed.

The medicinal chemicals index declined to 125.6 from the previous 126.3. The favorable supply position reported last month resulted in a lower spot market price for mercury, now offered at $195 per flask of 80 pounds. Production has been maintained to the extent that favorable stock piles have been built up. The market is expected to continue in favor of manufacturing consumers.

**15 Medicinal Chemicals—Weighted Price Index 1926=100**





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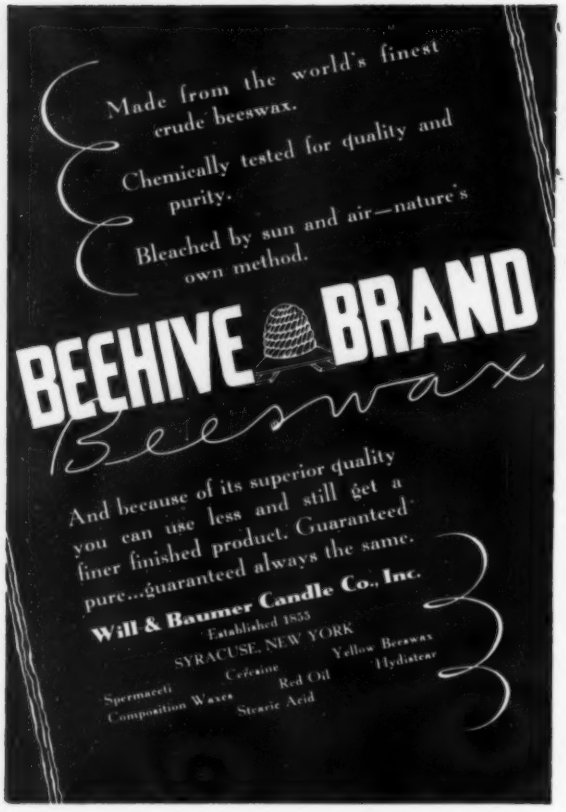
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## November Allocations

*(Continued from page 515)*

*Butyl Cellosolve:*—All requests denied except a few drums for small users.

*Methyl Cellosolve:*—All requests denied except small amounts for individual special uses.

### Hexahydric Alcohols

For the current month of October 15-November 14, requests for crystalline sorbitol were filled as follows:—ascorbic acid 50 per cent; pharmaceuticals and small orders 100 per cent; all other requests denied.

*Technical Sorbitol Syrup:*—Small orders 100 per cent; ascorbic acid 67 per cent of ascorbic acid producers' top capacity; crystalline sorbitol manufacture 70 per cent; esters 30 per cent. All other requests denied.

### Hexamethylenetetramine

Allocations for essential civilian use in November were as follows:—Granted 100 per cent for adhesives, 10,850 pounds; brake lining, 1,224 pounds; cashew oil resins, 2,500 pounds; oil, 2,650 pounds; research, 250 pounds; and textiles, 500 pounds.

### Isopropyl Acetate

Granted 100 per cent for drugs; cellophane lacquers; and chemicals. Granted 50 per cent for industrial and farm equipment (new); transportation equipment (new). Denied for industrial and farm equipment (maintenance); transportation equipment (maintenance); shoe lacquers; printing inks; adhesives and cements; civilian furniture; civilian clothing; and hospital sheeting.

### Lithium Compounds

None allowed for civilian use.

### Methylethylketone

All civilian requests were granted in full for research, 6,065 pounds; pharmaceuticals, 650 pounds; gasoline inhibitors, 40,000 pounds and synthetic flavoring, 1,086 pounds. All other requests were denied.

### Nicotinic Acid

Granted 100 per cent for research and conversion to nicotinamide. Civilian medicinal requests granted 100 per cent on basis of past usage. Civilian food granted 100 per cent except for building excessive stock of primary product or for requests in excess of plant capacity.

### Nicotinamide

Granted 100 per cent for research and food fortification. Civilian medicinal requests granted 100 per cent on basis of use during base period. Requests for use in feeds denied.

**Orthocresol**

Allowed for agricultural insecticides. Denied for dyes and inks, coumarin manufacture and all other civilian uses.

**Paraformaldehyde**

Allocated to civilian end uses 100 per cent for the following:—adhesives, textiles; cashew oil resin; protective coatings; paper; disinfectants and germicides; drugs and pharmaceuticals; metal treating; embalming fluid and research.

**Petroleum Cresylic Acid**

Allowed for carbon remover in full, 121,000 pounds; disinfectants (25 per cent), 81,000 pounds; miscellaneous uses (75 per cent), 69,000 pounds.

**Phenol**

Allocated in full for medicinal salicylates and other pharmaceutical uses (to extent of production capacity). Also allowed in full for disinfectants and preservatives, 203,000 pounds; and dyes and inks, 231,000 pounds. Allowed in part (90 per cent) for chemical manufacturing, 382,000 pounds.

**Phosphorus**

Requests for phosphorus during the month of November were granted in full for matches, fire retardants, boiler water treatment, bearing metals and mining flotation.

Requests for use as acid leavening agents in the form of mono calcium phosphate were granted 90 per cent of normal, using as a base period the year 1942. In the form of sodium acid pyrophosphate, requests were granted 80 per cent of normal for the same use and the same base period. In the form of beverages, requests were granted 75 per cent.

**Riboflavin**

Granted 100 per cent for medicinal (on basis of past usage), and for research. Granted in part for the following:—food enrichment (99 per cent), feed enrichment (51 per cent).

**Sodium Phosphates**

Allocations of all sodium phosphates, in November were granted in full for use in boiler water treatment, and for incorporation in foods and drugs.

Requests for trisodium phosphate for all other uses were cut to 100 per cent of the average monthly consumption during the base period—July, 1941, through March, 1943. Primary distributors were allocated 100 per cent of their average monthly purchases for resale during the same base period.

Requests for tetrasodium pyrophosphate were cut to 50 per cent of the average monthly consumption

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during the base period or to 50 per cent of present actual requirements—whichever was the lowest. Primary distributors were allocated 50 per cent of their average monthly purchases for resale during the base period.

Requests for crystalline disodium phosphate were granted in full. Requests for anhydrous disodium phosphate for all uses except as specified above were cut to 90 per cent of average monthly consumption during the base period.

**Styrene**

Synthetic:—The availability of styrene has increased to the point where all essential civilian requests for shoe adhesives, electrical insulation, batteries and cotton finish were met in full.

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## Alcohol Shortage

(*Continued from page 508*)

each year. Such an amount would make up the 50,000,000 gallons and leave an additional 30,000,000 gallons to be added to the stockpile. An offer has been made to the entire woodpulp industry of the United States and Canada by the pioneer producer of alcohol from woodpulp in this country to give the benefit of his experience. It is hoped that there will be a hearty response to this generous offer now that the WPB has painted the alcohol picture in dark colors.

If some such step is not taken, this industry and other industries will not be able to obtain even the amount of alcohol that they are now obtaining. It is therefore up to manufacturers in this industry and all its distributors, both wholesale and retail, to get behind the use of waste sulfite liquors for alcohol production both for the reason that it appears to be the only sensible way to get the necessary alcohol for direct prosecution of the war, and also because of the fact that if this alcohol is produced, this industry might be able to get more than they had before and their distributors might have more merchandise to sell.

## Oil of Sweet Basil

(*Continued from page 511*)

of ashes from cotton seed hulls and mesquite wood (prosopis juliaflora), is very beneficial and should be the ordinary practice as imported fertilizer is prohibitive in price ($90 per ton of potash 48% of KO).

Lubimenko and Novikoff reports that the yield of oil is at the maximum under light shade. This may be true for other varieties, but for the Haytian variety, shade is detrimental to the yield of forage and oil. *O. Basilicum* is a 100% heliophyle plant in Hayti and must be commercially planted in the open. The "thermic content" of the plant is high, and the best results as to the yield of oil per acre is intimately linked with the three growth factors: light, water and soil. Basil in Hayti is very tolerant as to the pH of the soil: six to eight pH, and grows as well in light as in heavy soil; in very acid soil the roots are sometimes attacked by a fungus.

### Harvesting the Crop

When the fields have reached the full blooming stage and the plants are about 20 inches high, the irrigation is stopped for a week and, they are cut with machettes. The main stem is left and only the lateral branches are harvested. The harvesting must be rapid and the herb should by no means be exposed for more than three hours to the rays of the sun. The best time of the day for harvesting is from six A. M. to ten A. M. and three to six P. M. The herb must be distilled within the next twenty-four hours, otherwise fermentation will take place, which imparts a woody smell to the oil. At the distillery, the herb is generally sprinkled with water to prevent fermentation and to keep unchanged the delicate perfume.

If the herb is to be distilled dried, shade drying is to be resorted to. It is a costly practice which involves a lot of handling and a loss of oil due to shattering of the leaves, and dehiscence of the seeds. No experiments were conducted about the migration of the oil from the leaves to the seeds.

But the author has found that the yield of oil had increased, when the young inflorescences were pinched when two inches long. This increase is the result of the increase of weight of the plant, which supplement of sap has favored negative growth.

### Distillation

Steam distillation in copper stills of 2,000 liters of total capacity is the only method in use. The herb is placed over a false perforated bottom of wood in three layers well tamped to prevent channeling of the vapors. Each layer is separated from the preceding by a wooden perforated plate fitted on the sides by four copper wires which are joined together for hoisting out the charge of herb of each plate. The last layer is covered

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by a plate to prevent the leaves from entering and clogging the worm. The stills are 10 feet high and 40 inches wide, have no head, and are identical to those used for mint. An arm connects the still proper to the worm. The stills are filled up to 4/5 of their height. Vapor is admitted while tamping. The distillation is conducted at an average of forty pounds boiler pressure and lasts four hours. Vapor is distributed under the perforated false bottom through a cross pipe. Condensation of water from the steam and herb soon takes place and the distillation is rather a steam and water distillation. When the condenser water is over 45° C. emulsion takes place, it is for this reason that in Hayti about 110 times the amount of the distillate is applied as condensing water.

### The Oil of Sweet Basil Hayti

The oil from fresh herb is light golden yellow, that of dry herb and seeds is dark yellow and has a stronger odor.

Different samples of oil from the fresh herb have been analyzed by American experts and have shown the following constants:

| | |
|---|---|
| Specific Gravity at 15° | 0.9623 to 0.9659 |
| Rotation | – 1.600 to – 1.800 |
| Refractive Index | 1.5084 to 1.5093 |
| Acids | 0 |
| Esters | 3.2 to 3.49% linalyl as acetate |
| Alcohols | 50 to 52.5% as linalool |
| Solubility | 8.5 vol. in 70% alcohol |

One of the examiners in New York points out that the Haytian oil reminds him of that produced years ago in Egypt. Specialists in basil like it very much, and the oil, although high priced in New York, has already gained a market of over 250 pounds per year.

There is no doubt that the Haytian oil differs from that of France and Reunion, but is closer to the French than to the Reunion type.

The high specific gravity of the Haytian oil (0.9623-0.9659) could classify it in the Reunion and Comores group, (0.945 to 0.987), but the Haytian oil does not show any camphor-like odors and differs entirely in that respect from the oils of those Islands.

The Haytian oil is levogyre (– 1.60 to – 1.800) as those from France and Germany (– 6 to – 22), to the contrary of the Reunion and Comores oils (12 to + 22) which are dextrogyre. But the refractive index of the Haytian oil (1.5084 to 1.5093) is closer to that of the Reunion and Comores (1.51505 to 1.51763) than to that of the European oils (1.477 to 1.488). The Haytian oil contains more linalool than the Comores and Reunion, and its ester content computed with reference to linalyl acetate (3.2 to 3.49) is higher than those of Europe (1.22 to 3.43 per cent). The same can be said about the alcohol content computed with reference to linalool (50-52.5 per cent) against (34 to 39 per cent) for the European oils. In a general way, the Haytian oil should be classified within the European group of

oil from occimum, notwithstanding its high specific gravity (some German oils have shown a specific gravity 15° higher than 0.965).

### Tonnage Per Acre and Yield of Oil

Large variation has been observed according to the age of the plant, and the per cent of flowering branches. As an average a yield of 3.25 lbs. to the ton, has been considered satisfactory. The tonnage of grass varies from three to twelve tons fresh herb per acres, according to soil fertility, irrigation and number of weedings.

### Conclusion

It is the hope of the author that the basil oil from Hayti will continue to maintain its reputation upon the American market, and that in the future, a larger use, in the perfume and flavor industries, will be found for it. Hayti can take care of the entire basil oil consumption of the United States.

---

## Zinc Peroxide

*(Continued from page 513)*

Such a suspension will not cake within 24 hours and has been used effectively in four cases of chronic undermining varicose ulcers.

In England, Hoyle, Spence and Faulkner[7] found that satisfactory results could be obtained by the use of ordinary commercial zinc peroxide (containing 38 to 40 per cent $ZnO_2$) providing suitable media were employed. In all of their procedures, the vehicle was sterilized before incorporating the active ingredient and aseptic precautions used throughout. In listing these formulas, it should be noted that the proportions of zinc peroxide employed are given in terms of absolute $ZnO_2$.

Thus, zinc peroxide ointments, in 2 to 10 per cent strength, can be made by incorporating the material in white petrolatum; the resulting ointment remaining stable and active for a considerable period of time. Since aqueous suspension shows rapid decomposition, it was determined that stable suspensions could be made by using a vegetable oil or liquid petrolatum plus a suspending agent to prevent flocculation. Glyceryl monostearate was found to be the most satisfactory emulsifier and peanut oil the best vegetable oil vehicle; as in the following combination:

| | |
|---|---|
| Zinc peroxide | 10 Gm. |
| Glyceryl monostearate | 3 Gm. |
| Peanut oil, to make | 100 Gm. |

Such suspensions showed no loss of oxygen after a month of storage under ordinary conditions, but after this time there is a progressive loss of oxygen; about 10 per cent in three or four months.

Suspensions in liquid petrolatum also require the addition of a substance such as anhydrous wool fat; as in the following example:

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| | |
|---|---|
| Zinc peroxide | 10 Gm. |
| Wool fat, anhydrous | 3 Gm. |
| Glyceryl monostearate | 3 Gm. |
| Liquid petrolatum, to make | 100 Gm. |

If desired, chemically compatible drugs can be incorporated in these suspensions. For example, five per cent of scarlet red is often added to speed epithelialization.

Hoyle, Spence and Faulkner also described methods for making gelatins of zinc peroxide. Even though they contain water, such preparations are quite stable. The formula given below, a solid at ordinary room temperatures, liquefies at body heat:

| | |
|---|---|
| Zinc peroxide | 10 Gm. |
| Gelatin | 15 Gm. |
| Distilled water, to make | 100 Gm. |

A solid gelatin, one resembling Unna's paste, is prepared from the following:

| | |
|---|---|
| Zinc peroxide | 6 Gm. |
| Gelatin | 15 Gm. |
| Glycerine | 35 Gm. |
| Distilled water, to make | 100 Gm. |

Since its action complements that of the sulfa drugs, it was not long before zinc peroxide was found to be a most useful conjunct to both internal and local sulfonamide therapy. Thus, in 1939, Meleney and Harvey[14] reported that in some instances, zinc peroxide locally and sulfanilamide orally gave better results in ulcer cases than either agent alone. In a few cases, however, the patients could not tolerate the sulfa medication, which had to be discontinued. In a subsequent paper, Meleney[32] advocated a like combination for wounds infected with the Welch bacillus. Others have also reported favorable results from such conjunct therapy.[40]

With the increasing popularity of local sulfonamide therapy for external conditions, it was inevitable that combinations of zinc peroxide and the patent chemotherapeutic agents should be used for topical application. In England, ZISP paste became quite popular. This consists of equal parts of zinc peroxide, iodoform and sulfanilamide mixed with sufficient liquid petrolatum to form a thin paste. Applied on gauze, it is used in place of petrolatum jelly in the Winnett-Orr treatment of wounds. Employed in this manner, the paste serves as an effective deodorant with efficient bacteriostatic action.[41]

In the United States, the extensive studies of Goldberger[42] showed that the use of certain oxidants could greatly potentiate the action of sulfonamides in the local therapy of wounds and surgical infections. Zinc peroxide (ZPO special medicinal) proved to be a most efficient oxidizing agent for use with the sulfa drugs. Of course, many combinations were tested but only comparatively few were retained for wide use and listing in the final report. Of the fourteen formulas presented by Goldberger in his paper, four contained zinc peroxide as a major ingredient; including one powder, two ointments or pastes and one suppository.

The powder, designated as preparation No. 15, consists of:

| | |
|---|---|
| Sulfanilamide | 4 parts |
| Sulfathiazole | 2 parts |
| Zinc peroxide | 1 to 2 parts |

This combination found very wide use, a large variety of conditions such as: abrasions, lacerations, avulsed wounds, puncture or stab wounds, exploratory wounds, operative wounds, hand infections, human bites, abscess cavities, carbuncles, burns, leg ulcers and miscellaneous disorders including vaginitis, cervicitis, otitis media, suppurative sinusitis and certain skin infections (e.g. pyodermia, impetigo, furunculosis, etc.)

The two zinc peroxide-containing ointments or pastes also found extensive use in treating a variety of conditions, but were not as frequently employed as the powder. One of these, preparation No. 40, is as follows:

| | |
|---|---|
| Sulfanilamide | 10.0 Gm. |
| Sulfathiazole | 5.0 Gm. |
| Zinc peroxide | 2.5 Gm. |
| Lanolin, or one of several water-soluble bases, to make | 100.0 Gm. |

The other preparation of this type (No. 89) was used in the treatment of a small series of burns, and as Goldberger put it, offers "a rather promising form of treatment." It consists of:

| | |
|---|---|
| Sulfanilamide | 4.0 Gm. |
| Sulfathiazole | 2.0 Gm. |
| Zinc peroxide | 1.0 Gm. |
| Gentian violet | 1.0 Gm. |
| Acriflavine | 0.1 Gm. |
| Water-soluble base (with wetting agent) to make | 100.00 cc. |

Suppository, No. 60, used in the treatment of vaginitis, cervicitis and related conditions, consists of:

| | |
|---|---|
| Sulfanilamide | 1.0 Gm. |
| Sulfathiazole | 1.0 Gm. |
| Zinc peroxide (Special) | 0.5 Gm. |
| Sodium tetradecyl sulfate | 0.2 cc. |
| Cocoa butter, to make | 4.0 Gm. |

Used in conjunction with the sulfonamide-zinc peroxide powder, this suppository gave excellent results in eleven cases of marked vaginal discharge with associated severe pruritus.

It is Goldberger's opinion that with potentiated sulfonamide preparations of this type "The ideal surgical antiseptic, harsh to bacteria and kind to tissue, has been approximated."

Because anaerobic bacteria are responsible for so many severe infections of the mouth, zinc peroxide has found wide use in dental conditions and oral surgery. In their earlier papers, Meleney and his associates[8, 36, 43] had reported that this material was superior for assuring rapid subsidence of acute oral symptoms, elimination of fetor and healing of lesions. They suggested that


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zinc peroxide be used in 25 per cent suspension as a mouth wash and in 40 per cent suspension for coating infected tissues.

Subsequently, other workers in the field of dentistry and oral surgery applied and extended these findings. Wintrup,[44] for example, showed that zinc peroxide was an oxidizing deodorant which, unlike hydrogen peroxide and sodium perborate, continues to react almost as long as it is possible to retain it in contact with the tissues of the oral cavity. He used it with success in treating anaerobic infections of the mouth.[45] Similarly, in a comparison of the effects of oxidizing agents on certain non-spore-forming anaerobes, Knighton[46] found that zinc peroxide offered the most promising results as a prolonged oxidizing material.

Today, this oxidizing agent has attained an established place not only in the treatment of oral infection, but in the therapy of necrotic conditions, such as necrotic gingivitis or Vincent's stomatitis, as well.[26, 47, 48]

The specialized realm of dermatology is also finding increasing use for zinc peroxide. The military manual on dermatology recommends its use in treating ulcerative conditions of the skin resulting from pyodermas. Tobias[50] makes a similar recommendation.

There are definite indications that this active material may serve a very useful function in the treatment of dermatophytosis (e.g. "Athlete's foot"). Thus, Feldman[51] obtained "gratifying" results in treating more than thirty patients with ringworm with an ointment of 10 per cent zinc peroxide (zinc superoxide, Merck) in a vanishing cream base such as the following:

| | |
|---|---|
| Stearic acid U.S.P. (containing quantities of palmitic acid) | 20.0 parts |
| Glycerine | 3.4 parts |
| Potassium hydroxide | 1.8 parts |
| Water | 80.0 parts |

If properly stored and kept from contact with metal, the preparation is quite stable. In contact with moisture, even such quantities as are present in the vanishing cream base, results in the liberation of oxygen, but in proportions insufficient to interfere with therapeutic activity. After the initial oxygen loss, further loss appears negligible.

Zinc peroxide is an important constituent of one of the two foot powders recommended in the military manual,[49] for the treatment of fungus infections. This preparation, alternate to the "issue" foot powder, is made from:

| | |
|---|---|
| Zinc peroxide | 10.0 Gm. |
| Tannic acid | 5.0 Gm. |
| Boric acid | 20.0 Gm. |
| Bentonite | 10.0 Gm. |
| Talc | 55.0 Gm. |

Schwartz and his associates[52] of the U. S. Public Health Service list zinc peroxide as one of the powerful, nonirritating, nonstaining oxidizing agents suitable for use in making protective ointments for the prevention

of poison ivy dermatitis. A vanishing cream base is used as the vehicle.

The oxidizing properties of zinc peroxide also make it of value in certain cosmetic preparations, more especially in deodorants.[53, 54, 55] Thus a typical deodorant powder, as given by Chilson,[56] is made from:

| | |
|---|---|
| Purified zinc peroxide | 20.0 per cent |
| Zinc stearate | 10.0 " " |
| Boric acid | 30.0 " " |
| Talc | 39.5 " " |
| Perfume | 0.5 " " |

According to De Navarre[57], zinc peroxide may be employed in water-free deodorant creams; as in the following example:

| | |
|---|---|
| Zinc peroxide | 10 parts |
| Benzoic acid | 2 parts |
| Colloidal kaolin | 10 parts |
| Petrolatum 43/46° C. | 78 parts |
| Perfume | sufficient |

This authority also points out that zinc peroxide is of value in bleaching creams made with water-free bases. He notes that this oxidizing material may have some usefulness in nail bleach preparations.

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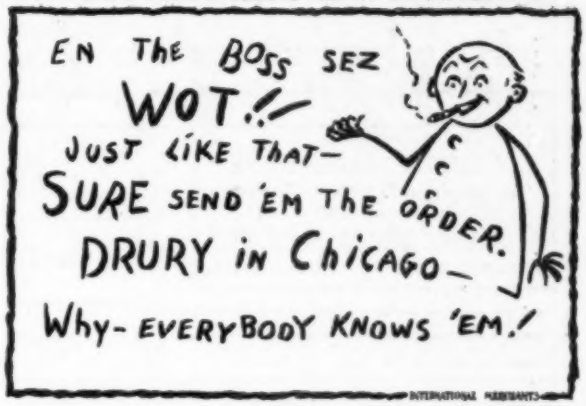


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**Of The Drug and Cosmetic Industry, published monthly at Pittsfield, Mass., for October 1, 1943**

State of New York, County of New York—ss

Before me, a notary public in and for the State and county aforesaid, personally appeared Thomas R. Farrell, who, having been duly sworn according to law, deposes and says that he is the Editor of The Drug and Cosmetic Industry, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to wit:

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## Index to Advertisers


Abbott Laboratories....573
Allied Products, Inc....479
Aluminum Seal Co....Insert facing 488
American Cholesterol Products, Inc....580
American Colloid Co....583
Anchor-Hocking Glass Corp....476
Andresen, J. C....551
Ansbacher-Siegle Corp....534
Armstrong Cork Co....468
Aromatic Products, Inc....Insert between 528, 529
Baker Chemical Co., J. T....Insert facing 528
Benzol Products Co....581
Bridgeport Metal Goods Mfg. Co....478
Broder, Harry, Inc....475
Brown Bag Filling Machine Co....559
Bush & Co., W. J....578
Calco Chemical Co., Inc....573
California Fruit Growers Exchange....Insert facing 481, 559
Carbide & Carbon Chemical Corp....482
Carr-Lowrey Glass Co....465
Cavalla, Inc., A....584
Chemo-Puro Mfg. Corp....579
Collins Labs....583
Colton Co., Arthur....551
Consolidated Fruit Jar Co....587
Consolidated Products Co., Inc....585
Continental Can Co....Insert facing 496
Cosmia Laboratories....582
Crown Cork & Seal Co....472
Dallal, D. S....587
Distributing & Trading Co....577
Dodge & Olcott Co....Insert facing 480
Dodge Cork Co....498
Dow Chemical Co....522
Dreyer, Inc., P. R....491
Drury & Co., Inc., A. C....585
Duche & Sons, Inc., T. M....574
Dunkel & Co., Inc., Paul A....568
duPont de Nemours & Co., Inc., E. I....495
Durlin Corp....539
Duval Compagnie....582
Edge Moor Iron Works, Inc....549
Empire Box Corp....474
Eppenbach, Inc....550
Ertel Engineering Corp....549
Evans Chemetics, Inc....473
Fairmount Chemical Co....584
Felton Chemical Co., Inc..Insert between 488, 489
Filter Paper Co....584
Fine Organics, Inc....578
Firmenich & Co., Inc....Cover 4
Florasynth Labs., Inc....489
Franks Chemical Co., Inc....588
Fritzsche Bros....Insert between 552, 553
Gardner-Richardson Co...Insert between 528, 529
General Drug Co....Insert facing 489
General Electric Co....542
Givaudan-Delawanna, Inc..Insert between 480, 481
Greeff & Co., R. W....576
Hagerty Bros., & Co....580
Helfrich Labs., Inc....Insert between 488, 489
Heyden Chemical Corp....Insert facing 473
Hooker Electrochemical Co....490
Hopkins & Co., J. L....558
Hormann & Co., F. R....583
Horn, John....575
Horix Mfg. Co....546
Huisking & Co., Inc., Chas. L....560
Industrial Chemical Sales....Cover 2
Inland Alkaloid Co....575
Innis-Speiden Co....564
Interstate Color Co., Inc....584
Jelly & Co., Walter H....576
Kachurin Drug Co....562
Kessler Chemical Co....560
Kimble Glass Co....Insert facing 472
Kohnstamm & Co., H....Insert facing 497
Kolmar Laboratories....526
Lautier Fils....572
Leeben Chemical Co., Inc....587
Lemke, Co., B. L....575
Leshin, J....564
Lowe Paper Co....481
Lueders & Co., George....480
Lusteroid Container Co....556
Magnus, Mabee & Reynard, Inc....477
Mallinckrodt Chemical Wks....Insert facing 501
Malmstrom & Co., N. I....496
McKesson & Robbins, Inc....564
Merck & Co., Inc....484
Meyercord Co....485
Monsanto Chemical Co....518
National Can Co....470, 471
Naugatuck Aromatics....499
New England Collapsible Tube Co....467
N. Y. Quinine & Chemical Works....469
Norda Essential Oil & Chemical Co....497
Orbis Products Corp....530
Package Machinery Co....536
Parento Co., Compagnie....558
Paris Cosmetics, Inc....488
Parsons Imports, M. W....572
Penick & Co., S. B....Insert facing 500
Pennsylvania Refining Co....493
Pfaltz & Bauer Co, Inc....587
Pfizer & Co., Inc., Chas....494
Pittsburgh Lectrodryer Corp....540
Pneumatic Scale Corp....Insert facing 529
Polak & Schwarz, Inc....585
Powell & Co., Inc., John....559
Purocaine Chemical Co....574
Republic Filters, Inc....544
Ritchie & Co., W. C....Insert between 500, 501
Robinson Wagner Co....554
Rosenthal Co., H. H....573
Roure-DuPont, Inc....500
Ste. Genevieve Lime Co....570
Schimmel & Co., Inc....492
Seeley & Co., Inc....581
Seydel Chemical Co....583
Sherwood Refining Co....570
Sonneborn Sons, Inc., L....486
Stafford-Allen & Sons....483
Standard Alcohol Company....562
Standard Specialty & Tube Co....566
Standard Synthetics, Inc...Insert between 500, 501
Stokes Machine Co., F. J....548
Stokes & Smith Co....566
Sturge Ltd., John & E....487
Swindell Bros., Inc....524
Synthex Products Co....587
Thurston & Braidich....579
Tombarel Products Corp....554
Torigian Labs. Inc....585
Ungerer & Co., Inc....Cover 3
U. S. Bottlers Machinery Co....550
U. S. Industrial Chemicals, Inc....Insert between 520, 521
van-Ameringen-Haebler, Inc....Insert between 472, 473
Van Dyk & Co....577
Verley & Co., Albert....532
Welch, Holme & Clark, Inc....568
Whittaker, Clark & Daniels, Inc....556
Will & Baumer Candle Co....574
Wilson Laboratories, Inc....574
Wolf & Co., Jacques....575